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T E N D E R D O C U M E N T

FOR THE PROCUREMENT OF

Design and establish civil work for Data Center (DC), Disaster Recovery Center (DRC), Core Banking Solution and Capacity Building including all necessary equipments at Rupali Bank Ltd. for Supply, Installation, Customization of hardware, system software, RDBMS & networking equipment including parameterization and implementation of Core Banking Solution with facilities management for 3 years with training to Bank's designated personnel on turn-key basis.

Invitation for Tender No: 13/2011 **Ref. No: HO/COM/372**

Issued on: 24/05/2011

Issue to: M/S……..Date:…….

PO Number: …….. ……. Date:……...

Issuing Branch:……...Bank:…….

Amount:…….

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Rupali Bank Ltd.

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INVITATION FOR TENDER

Tenders are hereby invited under the provisions of the Public Procurement Regulation-2008 and amendment of 2009 for the Goods and related Services under the terms and conditions outlined below and detailed in the Tender Document**:**

01	Procuring Entity Name	Rupali Bank Limited, Head Office, Dhaka
02	Source of Fund	Rupali Bank Limited's own fund
03	Invitation for tenders Ref and Date	Tender No. 13/2011 Ref. No. HO/COM/372 Dated: 24/05/2011
04	Tender Name	Tender for 1) Data Center, 2) DRC, 3) Core Banking Solution and 4) Capacity building of RBL
05	Tender Method	Open Tendering Single Stage two envelops Method.
06	Brief Description of Goods and Services	Design and establish civil work for Data Center (DC), Disaster Recovery Center (DRC), Core Banking Solution and Capacity Building including all necessary equipments at Rupali Bank Ltd. for Supply, Installation, Customization of hardware, system software, RDBMS & networking equipment including parameterization and implementation of Core Banking Solution with facilities management for 3 years with training to Bank's designated personnel on turn-key basis
07	Time for Completion of Delivery	36 (thirty six) months from the date of signing of the contract agreement. However, it is expected that Data Center (DC), Disaster Recovery Center (DRC) and Core Banking Solution will be functional in selected key locations by the first 12(Twelve) months.
08	Eligibility of Tenderers	Tenderers must have proven track record in providing such solution in any project as **a turnkey** basis for any large environment. 1. The Tenderer is encouraged to form consortium/partnership (not more than three partners/member organization exclusive/non-exclusive in a group) and at least one member organization of the consortium should be a Bangladesh registered organization. Bangladesh registered organizations are free to participate in one or more bids as non-exclusive partner. However, if a Bangladesh registered organization participates in the bid as the lead bidder they will be considered as the "exclusive" partner. The **prime/lead partner should not be** non-exclusive partner in one or more bids. Among the key personnel in the bid either the Team Leader or Deputy Team Leader should be a Bangladesh Citizen. In case of other professionals to be involved in the project, preference will be given to local (Bangladeshi) consultants and experts supported by short term international experts. The prime/lead Tenderer will be fully responsible for contractual obligations including financial and management. In case of consortium, legal documentation on partner role and responsibility should be included as an attachment to the management plan of the bid proposal. 2. The Tenderer (**prime/lead** and/or support partner) must have experience of design, supply, delivery, install, test, commission and maintenance of such a state of the art turnkey solution for large corporate of at least five organizations of which at least two in the banking industry. Brief case studies should be added in this regard **with documentary evidence.** 3. The prime/lead Tenderer preferably should have an office in Dhaka, Bangladesh. However, if the local presence is not there, the prime/lead Tenderer must give an undertaking for establishment of an office, within six months of award of the contract. 4. Tenderer (prime /lead or consortium member) who wish to participate should meet the following eligibility criteria: • The Tenderer may be a national or international organization/government organization/ Public sector unit/ Limited Company/ Private Limited Company or a combination of registered organizations. Relevant documents of the same have to be submitted. • The Tenderer (Prime/Lead or consortium member) have been in existence for and must be engaged in the business of integration of IT Projects for at least 3(Three) years as on the date of notice inviting this Tender. Related document must be submitted as part of the proposal with special reference to Banking clients • The Minimum average annual turnover or credit facilities or Asset Value of the prime/lead Tenderer not less than 50 Crore in proceeding three financial years. • The prime/lead Tenderer should have a positive net-worth and made profits for the last three years. • The prime/lead Tenderer must certify that they have successfully completed a project of supplying similar goods with minimum value Tk. 10(Ten) Crore under a single contract in the last 3 (three) years 5. The Prime/Lead or Consortium Member must have strong presence and support office in Dhaka City, Bangladesh with well-equipped service cell manned by adequately qualified technical personnel for maintenance and support of the proposed DC, DRC and Core Banking Solution.

Rupali Bank Ltd.
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09	Price of Tender Document	Tk.10,000/- (Non-refundable) through PO/DD in favor of "Rupali Bank Ltd.". The purchased original tender document must be submitted with the offer.
10	Amount of Tender Security	Tk 1.00(One) Crore through PO/SDR in the name of "Rupali Bank Ltd.".
11	Name and address of the Office(s) Selling Tender Document	1. Computer Division (9th Floor), Rupali Bank Ltd., Head Office, 34, Dilkusha C/A, Dhaka-1000. 2. Establishment Division (7th Floor), Rupali Bank Ltd., Head Office, 34, Dilkusha C/A, Dhaka-1000. [Interested Tenderers may view the documents at the website of the Bank. (Website: www.rupalibank.org)]
12	Name and address of the Office(s) Receiving Tenders	Establishment Division (7th Floor), Rupali Bank Ltd., Head Office, 34, Dilkusha C/A, Dhaka-1000.
13	Name and address of the Office Opening Tenders	Establishment Division (7th Floor), Rupali Bank Ltd., Head Office, 34Dilkusha C/A, Dhaka-1000.
14	Last Date and Time for Selling Tender Document	26/06/2011 within 2.30 PM.
15	Last Date and Time for Submission of Tenders	29/06/2011 within 2.30 PM.
16	Date and Time for Opening of Tenders	29/06/2011 at 3.00 PM. Tenderer's authorised representatives are allowed to attend.
17	Pre-tender meeting	No Pre-tender meeting will be held.
18	Special Instructions	The Procuring Entity reserves the right to reject the tenders.
19	Other Instruction	In case of any unavoidable circumstance submission and opening of tender will be commissioned on the same time of the following date

General Manager
Computer Division

INTRODUCTION

1.1 Project Overview:

Rupali Bank Ltd. is a commercial Bank in Bangladesh. It was established as a nationalized bank in 1972 under the Bangladesh Bank Nationalization Order, through the merger of 3 (three) erstwhile commercial banks, Muslim Commercial Bank Ltd., Australasia Bank Ltd. and Standard Bank Ltd. operated in the then Pakistan, on March 26, 1972 under the Bangladesh Banks (Nationalization) Order 1972 (P.O. No. 26 of 1972), with all their assets, benefits, rights, powers, authorities, privileges, liabilities, borrowings and obligations. Rupali Bank worked as a nationalized commercial bank till December13, 1986. Rupali Bank Ltd. emerged as the largest Public Limited Banking Company of the country on December 14, 1986.

Rupali Bank Ltd. offer financial services through its 492 existing branches all over Bangladesh. The bank has a vision to expand the bank by increasing its number of branches to in between 700 and 1000 branches.

Out of the existing 492 branches, 145 branches' operation is currently automated through Branch banking software named 'Infinity Banking solution'. The bank has decided to automate the operation of rest of its branches using the same solution by the year 2011. This will ensure capturing all the branches' data in electronic format necessary to migrate to Core Banking solution as well as prepare the mind set and ability of the users to use automated banking solution. RBL is planning to rollout (in all branches, control offices and Head office Divisions) the activities (mentioned in the bid through this contract) in a shortest possible time and the Tenderer is expected to provide a time frame for the assignment, which will form the part of the contract period of three years.

1.2 Present Capital Structure

Authorized Capital:	Tk. 7000 million (US$ 120.70 million)
Paid up Capital:	Tk. 1250 million (US$ 21.55 million)
Break up of paid up Capital (as on 31.12.2010)	
Government shareholding:	92.77%
Private shareholding :	07.23 %
Present Share Structure	
Total Number of share (Each lot 10):	1,25,00,000
Share Demated by shareholders as on 31.12.2010:	1,03,65,174

2 KEY INSTRUCTION.

2.1 Scope of Bid

Rupali Bank Limited (RBL) wishes to receive a details proposal from the firms for establishing robust systems infrastructure including constructions/systems/ application, network etc for the automation of banking operation at Bangladesh. The bid includes supply, installation and commissioning of various equipments / devices/ applications/ database and migration of existing systems required for this project. Bidders are required to propose **a turnkey solution** for this project. Tenderer(s) are required to propose all items and are wholly responsible for all infrastructure, products and services offered unless otherwise specified and as specified in the terms and conditions.

The successful Tenderer shall be the Contractor for all the products and services offered and are fully responsible for the overall project management and co-ordination of the supply, installation, integration, testing, training and commissioning for the implementation of the solution. The scope of the bid includes design, specification, bill of quantity and prices of the items as detailed in this document and any other items that deem necessary but not mentioned in this document. A work plan with a clear listing of milestone for deliverable should be submitted as per schedule of requirement in section - 06 in the tender schedule. An inception report will be prepared by the Tenderer and submitted for approval by RBL during the first quarter after signing the contract. This inception report will provide clarifications and justifications (based on the contract agreement signed by the Tenderer) on the proposed detailed technical, management, financial and other relevant plans and will also indicate required specific support expected from RBL. The inception report will also clearly set the milestones based on specific deliverables to be listed in the proposal.

2.2 Current Business Dimension & Future Projection

Bank wishes to establish a state of the art IT Systems & communication infrastructure for its IT environment which will be able to support its existing and future operations.

Current Business Dimension & Future Projection		
	Current (March 2011)	**After 3 Years (Approx.)**
Branches	492	500
GM Offices / Zonal Offices/Control Office	25	35
Head Office Divisions	21	25
Special Service Centers (e.g SME)/Mini Branches	Nil	200 (proposed)
POS	Nil	1000
ATM	02	100
Customer Based Information:		
Deposit Accounts	Approx. 24 lac	50 lac
Advance Accounts	Approx. 01 lac	02 lac
Number of User	Approx. 3000	5,000
Number of Concurrent User	Approx. 2500	5000
Number of Transactions per day	Approx. 2,50,000	5 lac

Table 1: Current Business Dimension & Future Projection

RBL would like to establish its new Network & Systems solution considering High Availability, Scalability, Redundancy and migrate its existing systems into the new solution. The design consideration should be tested latest technology to achieve operational efficiency, proper security in place, redundancy in all possible area and finally high availability.

To fulfill the current and future requirements, as projected in Table 1, the Bank is looking for world-class business solutions that will help the Bank to be more efficient, dynamic, and resilient. The solution should include IT optimization, data center optimization, virtualization, security, business continuity, disaster recovery and Data Communication solutions.

2.3 The deliverables of this project includes the following:

- *Data Center*
- *Disaster Recovery Center*
- *Point to point Dark Fiber network between DC & DRC*
- *Network & Communication Infrastructure*
- *Email solution*
- *IP Telephony*
- *Windows Domain with active directory or similar security/access control mechanism for network/shared resources through other OS.*
- *Security solution including network, email, web etc covering end to end security solution to protect the network from inside and outside.*
- *Core Banking Solution*
- *Migration of existing system (hardware, software and data) to the new solution*
- *OEM Certification*
- *Developing and training a core group of RBL staffs for running an uninterrupted system beyond the project period.*
- *Developing a functional monitoring and evaluation system for quality assurance and troubleshooting.*
- *System/Software testing facility/environment*
- Design and implement a secure LAN in the Head Office Building

The Tenderer are encouraged to add any other item for RBL consideration which may be considered essential for ensuring the quality of products and services.

2.4 Other deliverables

- An inception report with a detailed work plan in consultation with the stakeholders within three months of signing the contract.
- To provide suitable program management and training support to ensure successful implementation and roll out of the project;
- To provide documentation including user, system and operation manuals as well as wiring diagrams and design drawings for every piece of the environmental equipment;
- Provide a detailed Data Migration, Test and Implementation strategy for the banking solution deployment.
- To provide acceptance checklist for the project;
- To propose additional items with price that deem necessary but not mentioned in this tender with logic supporting necessity of the items;
- Schedule of training on regular administration & troubleshooting of the new system at the Contractor's premises using the Contractor's training facilities. In case if appropriate training is not available locally, the Contractor should arrange training outside Bangladesh. Training cost (including participants costs, transportation etc.) should be included in the quoted price;
- Developing a core team of at least 100 professionals for ensuring the implementation of the system beyond the project period.
- To provide standard operating procedure for the entire solution based on the BS7799/ISO 27001
- Primary Level support should be available locally by 24x7 and secondary or tertiary level support can be managed by outside the country through remote support. The complete resolution time line is 8 hours for severity -1 cases.
- Respective OEM support should be included in the product during warranty period and AMC period as well.

3 KEY CONSIDERATIONS

3.1 The Tenderer (Lead and/or support partner) must follow the guidelines as described in Section 2 (Instruction to Tenderer). Failing to comply with these guidelines will disqualify the proposal.

3.2 All the products should be quoted with minimum 3 (Three) years warranty. The warranty start date would be from the date of acceptance and signoff of the system.

3.3 The Tenderer shall furnish the following documentary evidence:

a. A profile of the firm.
b. Details experience in System Integration, Consolidation and Migration.
c. Client list with contact details.
d. Financials for the last three years
e. Proof of similar assignments carried out by the firm in the last 3 years with case studies.
f. Reference client list for site visit by RBL management.

3.4 The Tenderers should provide an undertaking from the OEM that all the products (Hardware and Software) being supplied as a part of the bid will not be declared end of sale during 24 months from the date of submission of bid.

3.5 The Tenderers should provide an undertaking from the OEM that all the products (Hardware and Software) being supplied as a part of the bid will not be declared end of life during project period.

3.6 The Tenderers should provide an undertaking from the OEM that all the products (Hardware and Software) being supplied as a part of the bid will be supported for a period of 6 years from the date of acceptance and signoff of the system.

3.7 The Tenderer should provide an undertaking from the OEM that during the product warranty and AMC period the Tenderer should agree to provide all new releases, versions, any type of updates, patch and/or bug fixes for the software or firmware, as applicable and in accordance with the standard policies, at no additional cost.

3.8 The Tenderers should be a direct reseller/ distributor of the major IT equipments like Server, Storage, Networking and Enterprise Management Software and should provide an undertaking from the OEM for the same.

3.9 The Tenderer should have the experience of successfully implementing and supporting the products being quoted in the bid and should be able to provide such an undertaking from the OEM and from the Client.

3.10 The Tenderer has to provide an undertaking from the OEM that incase of any dissatisfaction or default on part of the Tenderer in providing the level of support desired by RBL, the OEM agrees to extend the support required to meet the warranty terms for the remaining period.

3.11 RBL may arrange clarification/demonstration meeting with Tenderer(s). The Tenderers' experts will attend in such meeting for which no allowance / fee will be provided by RBL. If the Tenderer fails to respond to such meeting their bid will be treated as non-responsive.

3.12 The Tenderer shall quote unit price and total price (in figure and words), and there should not be any cutting / erasing / overwriting.

3.13 Emphasis will be given to the quality and technical specification of the item(s). So, RBL is not bound to accept the lowest bid. RBL reserves the right to accept or reject any or all the quotations without arising any reasons whatsoever.

3.14 Tenderers must submit description of their support team with the profile of experts of the items and services, along with certifications.

3.15 RBL reserves the right to reduce or increase the quantity..

3.16 RBL shall not accept the work if not supplied as per specification or approved sample.

3.17 The bid will be automatically cancelled if the requisite terms & conditions are not fulfilled.

3.18 Unsuccessful Tenderers' will be notified within two weeks from the date of awarding the successful Tenderer. No price will be given to these Tenderer(s) for preparing their proposals.

3.19 All work including Project management must be done by the successful Tenderer

3.20 Successful Tenderer will be the responsible and accountable for any activities done by any other 3rd party vendor.

3.21 RBL will receive all services from successful Tenderer as a single point of contact and they will be responsible for delivery of the project successfully.

3.22 Tenderer will involve experienced and expert implementation team who has relevant certification as well as experienced in similar project. Tenderer will provide the profile of their implementation team to RBL.

3.23 Tenderer must mention the Quality of the CBS by giving the details of the number of new implementation project signed during the last five years number of projects where the CBS is now in Productions with valid Proof.

3.24 Tenderer **must** utilize the existing infrastructure in RBL effectively to arrive at a cost effective Design and explain the same in the Technical Proposal. These should reflect in a detailed proposal which should have the steps involved in Data migration/Consolidation/Cross Utilization of the existing infrastructure data managed capacity (including software migration).

3.25 Tenderers **must** provide clear terms and conditions of Licensing and source code availability to RBL.

3.26 The Tenderers **must** agree to share the Source Code of the Core Banking Solution based on the ESCROW Agreement defined by the bank. This has to be in an undertaking letter submitted with the Tenders Proposal (FormG-10)

Section 1. Instructions to Tenderers

A. General

1. Scope of Tender

1.1 The Purchaser, as indicated in the Tender Data Sheet (TDS), issues this Tender Document for the supply of Goods, and Related Services incidental thereto, as specified in the TDS and as detailed in Section 6: Schedule of Requirements.

1.2 The successful Tenderer will be required to complete the delivery of the goods and related services (when applicable) as specified in the Particular Conditions of Contract (PCC).

1.3 Throughout this Tender Document:
(a) the term "in writing" means communicated in written form with proof of receipt;
(b) if the context so requires, singular means plural and vice versa; and
(c) "day" means calendar day.

2. Source of Funds

2.1 The Purchaser has been allocated Bank Own fund as indicated in the TDS and intends to apply a portion of the funds to eligible payments under the contract for which this Tender Document is issued.

2.2 Payments by the development partner, if so indicated in the TDS, will be made only at the request of the Government and upon approval by the development partner in accordance with the applicable Loan/Credit/Grant Agreement, and will be subject in all respects to the terms and conditions of that Agreement.

3. Corrupt, Fraudulent, Collusive or Coercive Practices

3.1 The Government requires that Purchasers, as well as Tenderers and Suppliers shall observe the highest standard of ethics during the implementation of procurement proceedings and the execution of contracts.

3.2 In pursuance of this requirement, the Purchaser shall:

a exclude the Tenderer from participation in the procurement proceedings concerned or reject a proposal for award; and

b declare a Tenderer ineligible, either indefinitely or for a stated period of time, from participation in procurement proceedings under Bank's funds; if it, at any time, determines that the Tenderer has engaged in corrupt, fraudulent, collusive or coercive practices in competing for, or in executing, a contract under Bank's funds.

3.3 Should any corrupt, fraudulent, collusive or coercive practice of any kind come to the knowledge of the Purchaser, it shall, in the first place, allow the Tenderer to provide an explanation and shall, take actions only when a satisfactory explanation is not received. Such exclusion and the reasons thereof, shall be recorded in the record of the procurement proceedings and promptly communicated to the Tenderer concerned. Any communications between the Tenderer and the Purchaser related to matters of alleged fraud or corruption shall be in writing.

3.4 The Government defines, for the purposes of this provision, the terms set forth below as follows:

(a) "corrupt practice" means offering, giving, or promising to give, directly or indirectly, to any officer or employee of a Procuring Entity or other governmental/private authority or individual, a gratuity in any form, an employment, or any other thing or service of value, as an inducement with respect to an act or decision of, or method followed by, a Procuring Entity in connection with the procurement proceeding;

(b) *"fraudulent practice"* means a misrepresentation or omission of facts in order to influence a procurement proceeding or the execution of a contract to the detriment of the Purchaser;

(c) *"collusive practice"* means a scheme or arrangement among two or more Tenderers, with or without the knowledge of the Purchaser (prior to or after Tender submission), designed to establish Tender prices at artificial, non-competitive levels and to deprive the Purchaser of the benefits of free, open and genuine competition; and

(d) *"coercive practice"* means harming or threatening to harm, directly or indirectly, persons or their property to influence the procurement proceedings, or affect the execution of a contract.

3.5 The Tenderer shall be aware of the provisions on fraud and corruption stated in GCC Clause 3 and GCC Sub-Clause 38.1(c).

3.6 The Government requires that the Purchaser's personnel have an equal obligation not to solicit, ask for and/or use coercive methods to obtain personal benefits in connection with the said proceedings.

4. Eligible Tenderers

4.1 This Invitation for Tenders is open to eligible Tenderers from all countries, except for any specified in the TDS.

4.2 A Tenderer may be a physical or juridical individual or body of individuals, or company, association or any combination of them under agreement in the form of an intended or existing joint venture, consortium or association (JVCA), invited to take part in public procurement or seeking to be so invited or submitting a Tender in response to an Invitation for Tenders. All members of the JVCA shall be jointly and severally liable to the Purchaser. JVCA is distinct from Supplier, Sub-supplier arrangement where the entire responsibility for contract execution rests with the Supplier.

4.3 A Government-owned enterprise in Bangladesh may also participate in the Tender if it is legally and financially autonomous, it operates under commercial law, and it is not a dependent agency of the Purchaser.

4.4 The Tenderer shall provide in Section 5: Tender and Contract Forms, a statement that the Tenderer (including all members of a JVCA) is not associated, nor has been associated in the past, directly or indirectly, with a consultant or any other entity that has prepared the specifications and other documents for this Invitation for Tenders.

4.5 The Tenderer shall not be under a declaration of ineligibility for corrupt, fraudulent, collusive or coercive practices in accordance with ITT Sub-Clause 3.2.

4.6 The Tenderer with a consistent history of litigation or a number of arbitration awards against it, shall not be eligible to Tender. The Tenderer shall supply the information requested in para 3.3 of the Tenderer Information Sheet (Form G-4)

4.7 The Tenderer shall have the legal capacity to enter into the contract.

4.8 The Tenderer shall not be insolvent, be in receivership, be bankrupt or being wound up, its business activities shall not be suspended, and it shall not be the subject of legal proceedings for any of the foregoing.

4.9 The Tenderer shall have fulfilled its obligations to pay taxes and social security contributions under the relevant national laws and regulations.

5. Eligible Goods and Related Services

5.1 All goods and related services to be supplied under the contract are eligible, unless their origin is from a country specified in the TDS.

5.2 For purposes of this clause, "origin" means the place where the goods are mined, grown, or produced, or the place from which the related services are supplied.

5.3 The origin of goods and services is distinct from the nationality of the Tenderer.

6. Site Visit

6.1 For goods contracts requiring Design & Civil work with installation, commissioning, implementation of Core Banking Solution with networking or similar services at site, the Tenderer, at the Tenderer's own responsibility and risk, is encouraged to visit and examine the Site and obtain all information that may be necessary for preparing the Tender and entering into a contract for the supply of goods and related services.

6.2 The Tenderer should ensure that the Purchaser is informed of the visit in adequate time to allow it to make appropriate arrangements.

6.3 The costs of visiting the Site shall be at the Tenderer's own expense.

B. Tender Document

7. Tender Document: Sections

7.1 The Sections comprising the Tender Document are listed below and should be read in conjunction with any Amendment issued in accordance with ITT Clause 10.

- Section 1 Instructions to Tenderers (ITT)
- Section 2 Tender Data Sheet (TDS)
- Section 3 General Conditions of Contract (GCC)
- Section 4 Particular Conditions of Contract (PCC)
- Section 5 Tender and Contract Forms
- Section 6 Schedule of Requirements
- Section 7 Technical Specifications
- Section 8 Drawings

7.2 The Purchaser will reject any Tender submission if the Tender Document was not purchased directly from the Purchaser, or through its agent as stated in the TDS.

7.3 The Tenderer is expected to examine all instructions, forms, terms, and specifications in the Tender Document as well as in Tender Amendments, if any. Failure to furnish all information or documentation required by the Tender Document may result in the rejection of the Tender.

8. Tender Document: Clarification

8.1 A prospective Tenderer requiring any clarification of the Tender Document shall contact the Purchaser in writing at the Purchaser's address indicated in the TDS. The Purchaser will respond in writing to any request for clarification received no later than seven (7) days prior to the deadline for submission of Tenders.

8.2 The Purchaser shall forward copies of its response to all those who have purchased the Tender Document, including a description of the enquiry but without identifying its source.

8.3 Should the Purchaser deem it necessary to amend the Tender Document as a result of a clarification, it shall do so following the procedure under ITT Clause 10 and ITT Sub-Clause 30.3.

9. Tender Document: Pre-Tender Meeting

9.1 To clarify issues and to answer questions on any matter arising in the Tender Document, the Purchaser may, if stated in the TDS, invite prospective Tenderers to a Pre-Tender Meeting at the place, date and time as specified in the TDS. Tenderers are encouraged to attend the meeting, if it is held.

9.2 The Tenderer is requested to submit any questions in writing so as to reach the Purchaser not later than five (5) days prior to the date of the meeting.

9.3 Minutes of the pre-Tender meeting, including the text of the questions raised and the responses given, together with any responses prepared after the meeting, will be transmitted within seven (7) days to all those who purchased the Tender Document. Any modification to the Tender Document listed in ITT Sub-Clause 7.1 that may become necessary as a result of the pre-Tender meeting shall be made by the Purchaser exclusively through the issue of an Amendment pursuant to ITT Clause 10 and not through the minutes of the pre-Tender meeting.

9.4 Non-attendance at the pre-Tender meeting will not be a cause for disqualification of a Tenderer.

10. Tender Document: Amendment

10.1 At any time prior to the deadline for submission of Tenders, the Purchaser for any reason, on its own initiative or in response to a clarification request in writing from a Tenderer, having purchased the Tender Document, may amend the Tender Document by issuing an amendment.

10.2 Any amendment issued shall become an integral part of the Tender Document and shall be communicated in writing to all those who have purchased the Tender Document.

10.3 To give a prospective Tenderer reasonable time in which to take an amendment into account in preparing its Tender, the Purchaser may, at its discretion, extend the deadline for the submission of Tenders, pursuant to ITT Sub-Clause 30.3. In the event that an amendment is issued with a period of only one-third or less of the Tendering period remaining, then the deadline for the submission of Tenders may be extended by the Purchaser, if so requested by a substantial number of Tenderers.

C. Qualification Criteria

11. General Criteria

11.1 The Tenderer shall possess the necessary professional and technical qualifications and competence, financial resources, production capability with equipment and other physical facilities, including after-sales service where appropriate, managerial capability, specific experience, reputation, and the personnel to perform the contract as specified in the TDS.

11.2 To qualify for tenders are invited in the Invitation for Tenders, The Tenderer shall demonstrate having resources and experience sufficient to meet the aggregate of the qualifying criteria of the tender.

12. Experience Criteria

12.1 The Tenderer shall have the following minimum level of supply experience to qualify for supplying the Goods and Related Services under the contract:

(a) a minimum number of years of overall experience in the supply of goods and related services as specified in the TDS;

(b) specific experience in the supplying of similar goods and related services as specified in the TDS;

(c) a minimum production capacity or availability of equipment as specified in the TDS; and

(d) in case of a Tenderer offering to supply goods which the Tenderer did not manufacture or otherwise produce, the Tenderer has been duly authorized by the goods' manufacturer or producer to supply the goods.

13. Financial Criteria

13.1 The Tenderer shall have the following minimum level of financial capacity of qualify for the supply of goods under the contract:

(a) The satisfactory completion of supply of similar goods of value stated in the TDS under a single contract in the last five years; and

(b) Availability of minimum liquid assets or working capital or credit facilities from a Bank, as specified in the TDS.

D. Tender Preparation

14. Tender: Only One

14.1 A Tenderer shall submit the Tender either individually or as a Member in a JVCA. A Tenderer (Lead/Prime) who submits or participates in more than one (1) Tender will be rejected.

15. Tender: Preparation Costs

15.1 The Tenderer shall bear all costs associated with the preparation and submission of its Tender, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Tendering process.

16. Tender: Language

16.1 The Tender, as well as all correspondence and documents relating to the Tender shall be written in the English or Bangla language, unless specified otherwise in the TDS. Supporting documents and printed literature furnished by the Tenderer may be in another language provided they are accompanied by an accurate translation of the relevant passages into the English or Bangla language, in which case, for purposes of interpretation of the Tender, such translation shall govern.

16.2 The Tenderer shall bear all costs of translation to the governing language and all risks of the accuracy of such translation.

17. Tender: Contents of Tender

17.1 The Tender prepared by the Tenderer shall comprise the following:

(a) The Tender Submission Sheet (Form G-1) must be submitted **in the separate Envelop of financial offer.**

(b) The Price Schedule (Form G-2) completed in accordance with ITT Clauses 18, 20 and 21 must be submitted **In the separate Envelop of financial offer.**

(c) Original Tender Security (Form G-6) completed in accordance with ITT Clause 27;

(d) Specifications Submission Sheet (Form G-3) completed in accordance with ITT Clause 18;

(e) alternative Tenders, if permitted, in accordance with ITT Clause 19;

(f) written confirmation authorising the signatory of the Tender to commit the Tenderer, in accordance with ITT Clause 28;

(g) documentary evidence in accordance with ITT Clause 22 establishing the Tenderer's eligibility to Tender, including the Tenderer Information Sheet (Form G-4) and the Manufacturer's Authorisation Letter (Form G-5), when applicable;

(h) documentary evidence in accordance with ITT Clauses 23 and 37 that the Goods and Related Services are of eligible origin and conform to the Tender Document;

(i) documentary evidence in accordance with ITT Clause 24 establishing the Tenderer's qualifications to perform the contract if its Tender is accepted; and

(j) any other document as specified in the TDS.

18. Tender: Submission Sheet, Price Schedules and Specifications Submission Sheet

18.1 The Tenderer shall submit the completed Tender Submission Sheet (Form G-1) as furnished in Section 5: Tender and Contract Forms. This document shall be completed without any alterations to its format, filling in all blank spaces with the information requested, failing which the tender may be rejected as being non-responsive.

18.2 The Tenderer shall submit the completed Price Schedule for Goods and Related Services (Form G-2) as furnished in Section 5: Tender and Contract Forms.

18.3 The Tenderer shall submit the completed Specifications Submission Sheet (Form G-3) as furnished in Section 5: Tender and Contract Forms.

18.4 All the documents mentioned in ITT clauses 18.1 to 18.3 shall be completed without any alterations to their format, filling in all blank spaces with the information requested, failing which the Tender may be rejected as being non-responsive.

19. Tender: Alternatives

19.1 Unless otherwise stated in the TDS, alternative Tenders shall not be considered.

20. Tender: Prices and Discounts

20.1 The prices and discounts quoted by the Tenderer in the Tender Submission Sheet (Form G-1) and in the Price Schedule (Form G-2) shall conform to the requirements specified below.

20.2 All items as listed in Section 6 or any item may be required by the tender : Schedule of Requirements must be listed and priced separately on the Price Schedule (Form G-2). For any item listed in the Schedule of Requirements, but not shown in the Price Schedule, it shall be assumed that the item is not included in the Tender. For any item listed in the Schedule of Requirements, but shown unpriced in the Price Schedule, it shall be assumed that the price is included in the prices of other items. In all cases the Tender shall be evaluated in accordance with ITT Sub-Clause 20.3.

20.3 The Tenderer shall indicate on the Price Schedule (Form G-2) the unit prices (where applicable) and the total price of the lot it proposes to supply under the contract.

20.4 Prices indicated on the Price Schedule shall be entered separately in the following manner:

(a) the price of the goods quoted EXW (ex works, ex factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all customs duties and sales and other taxes already paid or payable : (i) on the components and raw materials used in the manufacture or assembly of goods quoted ex works or ex factory; or (ii) on the previously imported goods of foreign origin quoted ex warehouse, ex showroom or off-the-shelf;

(b) any Purchaser country local taxes (VAT and other taxes) which will be payable on the goods if the contract is awarded;

(c) the price for inland transportation, insurance, and other local costs incidental to delivery of the goods to their final destination, if specified in the TDS; and

(d) The price of other related (incidental) services, if any, listed in the TDS.

20.5 The Tenderer's separation of price components in accordance with ITT Sub-Clause 20.4 will be solely for the purpose of facilitating the comparison of Tenders by the Purchaser and will not in any way limit the Purchaser's right to contract on any of the terms offered.

20.6 Prices quoted by the Tenderer shall be fixed during the Tenderer's performance of the Contract and not subject to variation on any account, unless otherwise specified in the TDS.

21. Tender: Currency

21.1 All prices shall be quoted in Bangladesh Taka.

22. Tenderer: Documents Establishing Eligibility

22.1 The Tenderer shall submit documentary evidence to establish its eligibility in accordance with ITT Clause 4 and, in particular, shall:

(a) complete the eligibility declarations in the Tender Submission Sheet (Form G-1), furnished in Section 5: Tender and Contract Forms; and

(b) if in accordance with ITT Sub-Clause 4.2, the Tenderer is an existing or intended JVCA, it must submit the Tenderer Information Sheet (Form G-4) and a copy of the JV Agreement, or a letter of intent to enter into such an Agreement. The respective document shall be signed by all legally authorised signatories of all the parties to the existing or intended JVCA, as appropriate.

22.2 If so specified in the TDS, a Tenderer that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorisation Letter (Form G-5) furnished in Section 5: Tender and Contract Forms, to demonstrate that it has been duly authorised by the manufacturer or producer of the Goods to supply the Goods to Bangladesh.

23. Goods and Related Services: Documents Establishing Eligibility

23.1 To establish the conformity of the Goods and Related Services to the Tender Document, the Tenderer shall furnish as part of its Tender the documentary evidence that the goods conform to Section 7: Technical Specifications.

23.2 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods and Related Services, demonstrating the substantial responsiveness of the Goods and Related Services to those requirements of Section 7: Technical Specifications, and if applicable, a statement of deviations and exceptions. The Tenderer shall note that standards for workmanship, material, and

equipment as well as references to brand names or catalogue numbers designated by the Purchaser in its Technical Specifications, are intended to be descriptive only and not restrictive. The Tenderer may substitute alternative standards/ brand names, etc. in its tender provided that it demonstrates to the Purchaser's satisfaction that substitutions ensure substantial equivalence.

23.3 The Tenderer shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period to be specified in the TDS**,** following commencement of the use of the goods by the Purchaser.

24. Tenderers: Documents Establishing Qualifications

24.1 Tenderers shall submit documentary evidence to meet the qualification criteria specified in Sub-Section C, Qualification Criteria of the ITT.

24.2 Tenderers shall submit the Tenderer Information Sheet (Form G-4) furnished in Section 5: Tender and Contract Forms.

24.3 Tenderers shall include the following information and documents with their Tenders:

(a) total monetary value of similar goods supplied for each of the last three (3) years;
(b) details of major supplies of similar types of Goods over the last three (3) years, and clients who may be contacted for further information on those contracts;
(c) financial reports or balance sheets or profit and loss statements or auditor's reports or bank references with documents or a combination of these demonstrating the availability of liquid assets to successfully complete the contract;
(d) authority to seek references from the Tenderer's Bankers; and
(e) information on past (3 years) litigation in which the Tenderer has been involved or in which the Tenderer is currently involved.

24.4 Tenders submitted by a JVCA shall comply with the following requirements, and any other requirements as specified in the TDS:

(a) the Tenderer shall include all the information listed in ITT Sub-Clause 24.3 for each JVCA Member;
(b) the Tender shall be signed so as to be legally binding on all Members;
(c) all Members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
(d) one of the Members will be nominated as being in charge, authorised to incur liabilities, and receive instructions for and on behalf of any and all Members of the JVCA; and
(e) the execution of the entire Contract, including payment, shall be done exclusively with the Member in charge.

24.5 The Tenderers should agree to share the Source Code of the Core banking Solution based on the ESCROW Agreement defined by the Bank. This has to be in an undertaking letter submitted with the Tenderers Proposal (Form G-10)

25. Tenderer: Disqualification

25.1 The Purchaser shall disqualify a Tenderer who submits a document containing false information for purposes of qualification or misleads or makes false representations in proving its qualification requirements. If such an occurrence is proven, the Purchaser may declare such a Tenderer ineligible, either indefinitely or for a stated period of time, from participation in future procurement proceedings.

25.2 The Purchaser may disqualify a Tenderer who has a record of poor performance, such as abandoning the supply, not properly completing the contract, inordinate delays, litigation history or financial failures.

26. Tender: Validity

26.1 Tenders shall remain valid for the period specified in the TDS after the date of Tender submission prescribed by the Purchaser, pursuant to ITT Clause 30. A Tender valid for a shorter period shall reject by the Purchaser as non-responsive.

26.2 In exceptional circumstances, prior to the expiration of the Tender validity period, the Purchaser may solicit the Tenderers' consent to an extension of the period of validity of their Tenders. The request and the responses shall be made in writing. The Tender Security provided under ITT Clause 27, shall also be suitably extended promptly. If a Tenderer does not respond or refuses the request it shall not forfeit its Tender Security, but its Tender shall no longer be considered in the evaluation proceedings. A Tenderer agreeing to the request will not be required or permitted to modify its Tender.

27. Tender: Security

27.1 The Tenderer shall furnish the tender security in the Technical Proposal. Which is as part of its Tender, a Tender Security in original form (Form G-6) and in the amount specified TDS.

27.2 The Tender Security shall:

(a) at the Tenderer's option be either;
  (i) in the form of a bank draft or pay order; or
  (ii) in the form of an irrevocable bank guarantee (Form G-6) issued by a Scheduled Bank of Bangladesh in the format furnished in Section 5: Tender and Contract Forms;
  (iii) or defined in TDS 27.1

(b) be payable promptly upon written demand by the Purchaser in the case of the conditions listed in ITT Sub-Clause 27.5 being invoked; and

(c) remain valid for a period of twenty-eight (28) days beyond the original validity period of Tenders, or beyond any period of extension subsequently requested under ITT Clause 26.2.

27.3 A Tender not accompanied by a valid Tender Security in accordance with ITT Sub-Clause 27.2, shall be rejected by the Purchaser as non-responsive.

27.4 Unsuccessful Tenderers' Tender Security will be discharged or returned within twenty-eight (28) days of the end of the Tender validity period specified in ITT Sub-Clause 26.1 and 26.2. The Tender Security of the successful Tenderer will be discharged upon the successful Tenderer's furnishing of the Performance Security pursuant to ITT Clause 51 and signing the Contract Agreement.

27.5 The Tender Security may be forfeited:

(a) if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Tender Submission Sheet, except as provided in ITT Sub-Clause 26.2; or

(b) if the successful Tenderer fails to:
  (i) accept the correction of its Tender Price pursuant to ITT Sub-Clause 39.2; or
  (ii) furnish a Performance Security in accordance with ITT Clause 50; or
  (iii) sign the Contract in accordance with ITT Clause 51.

27.6 The Tender Security of a JVCA shall be in the name of the JVCA that submits the Tender. If the JVCA has not been legally constituted at the time of tendering, the Tender Security shall be in the name of all intended JVCA Members as named in the letter of intent mentioned in ITT Sub-Clause 22.1.

28. Tender Format and Signing

28.1 The Tenderer must submit the bids in original (sealed) and six copy, duly marking the envelope as "ORIGINAL" and "COPIES". Also a soft copy of the proposal should placed in a separate CD. 'Financial' and 'Technical' proposals should be placed in two separate envelops and then placed all originals in a large "ORIGINAL" envelop and all copies in a large "COPIES" envelop.

28.2 The original and each copy of the Tender shall be typed or written in indelible ink and shall be signed by a person duly authorised to sign on behalf of the Tenderer. This authorisation shall consist of a written authorisation and shall be attached to the Tenderer Information Sheet (Form G-4). The name and position held by each person signing the authorisation must be typed or printed below the signature. All pages of the original and of each copy of the Tender, except for un-amended printed literature, shall be numbered sequentially and signed or initialled by the person signing the Tender.

28.3 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialled by the person(s) signing the Tender.

E. Tender Submission

29. Tender: Sealing and Marking

29.1 The Tenderer shall enclose the original in one (1) envelope and all the copies of the Tender in another envelope, duly marking the envelopes as "ORIGINAL" and "COPY." The two (2) envelopes shall then be enclosed and sealed in one (1) single outer envelope.

29.2 The inner and outer envelopes shall:

(a) bear the name and address of the Tenderer;

(b) be addressed to the Purchaser at the address specified in the TDS;

(c) bear the name of the Tender and the Tender Number as specified in the TDS; and

(d) bear a statement "DO NOT OPEN BEFORE…" the time and date for Tender opening as specified in the TDS.

29.3 If all envelopes are not sealed and marked as required by ITT Sub-Clause 29.2, the Purchaser will assume no responsibility for the misplacement or premature opening of the Tender.

30. Tender: Submission Deadline

30.1 Tenders must be received by the Purchaser at the address specified in ITT Sub-Clause 29.2 no later than the date and time as specified in the TDS.

30.2 Tenders may be hand delivered, posted by registered mail or sent by courier. The Purchaser shall, on request, provide the Tenderer with a receipt showing the date and time when its Tender was received.

30.3 The Purchaser may, at its discretion, extend the deadline for the submission of Tenders by amending the Tender Document in accordance with ITT Clause 10, in which case all rights and obligations of the Purchaser and Tenderers previously subject to the deadline shall thereafter be subject to the new deadline as extended.

31. Tender: Submitted Late

31.1 Any Tender received by the Purchaser after the deadline for submission of Tenders in accordance with ITT Clause 31 shall be declared late, will be rejected, and returned unopened to the Tenderer.

32. Tender: Modification, Substitution or Withdrawal

32.1 A Tenderer may modify, substitute or withdraw its Tender after it has been submitted by sending a written notice, duly signed by the same authorised representative, and shall include a copy of the authorisation in accordance with ITT Sub-Clause 28.2, (except that no copies of the withdrawal notice are required). The corresponding substitution or modification of the Tender must accompany the respective written notice. The written notice must be:

(a) submitted in accordance with ITT Clauses 28 and 29 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "MODIFICATION" "SUBSTITUTION," OR "WITHDRAWAL," and

(b) received by the Purchaser prior to the deadline prescribed for submission of Tenders, in accordance with ITT Clause 30.

32.2 Tenders requested to be withdrawn in accordance with ITT Sub-Clause 32.1 shall be returned unopened to the Tenderers, only after the Tender opening.

32.3 No Tender shall be modified, substituted or withdrawn after the deadline for submission of Tenders specified in ITT Clause 30.

F. Tender Opening and Evaluation

33. Tender: Opening

33.1 a) The Purchaser shall open the Technical Proposal only in public, including modifications or substitutions made pursuant to ITT Clause 32, at the time, on the date, and at the one place specified in the TDS. Tenders for which an acceptable notice of withdrawal has been submitted pursuant to ITT Clause 32 shall not be opened. Tenderers or their authorised representatives shall be allowed to attend and witness the opening of Tenders, and shall sign a register evidencing their attendance.

b) After Technical Evaluation by the technical committee of the purchaser, the successful Tenderer(s) financial offer will be open on the date, time and place informed by the purchaser of successful Tenderer(s) or their authorised representatives shall be allowed to attend and witness the opening of Tenders, and shall sign a register evidencing their attendance.

33.2 The name of the Tenderer, Tender modifications, substitutions or withdrawals, total amount of each Tender, number of corrections, discounts, and the presence or absence of a Tender Security, any alternatives if so permitted, and such other details as the Purchaser, at its discretion, may consider appropriate, shall be read out aloud and recorded. Only those discounts and alternative offers read out at the Tender opening shall be considered for evaluation. All pages of the original of the Tenders, except for un-amended printed literature, will be initialled by a minimum of three (3) members of the Purchaser's Tender Opening Committee.

33.3 Minutes of the Tender opening shall be made by the Purchaser and furnished to any Tenderer upon receipt of a written request. The minutes shall include, as a minimum: the name of the Tenderer and whether there is a withdrawal, substitution or modification, the Tender Price including any discounts and alternative offers, and the presence or absence of a Tender Security, if one was required.

33.4 Tenders not opened and read out at the Tender opening shall not be considered, irrespective of the circumstances, and shall be returned unopened to the Tenderer.

33.5 No Tender shall be rejected at the Tender opening, except for late Tenders, which shall be returned unopened to the Tenderer pursuant to ITT Clause 31.

34. Tender: Confidentiality

34.1 After the opening of Tenders, information relating to the examination, clarification, and evaluation of Tenders and recommendations for award shall not be disclosed to Tenderers or other persons not officially concerned with the evaluation process until after the award of the Contract is announced.

35. Tender: Clarification

35.1 The Purchaser may ask Tenderers for clarification of their Tenders in order to facilitate the examination and evaluation of Tenders. The request for clarification and the response shall be in writing, and any changes in the prices or substance of the Tender shall not be sought, offered or permitted, except to confirm the correction of arithmetical errors discovered by the Purchaser in the evaluation of the Tenders, in accordance with ITT Clause 39.

36. Tenderer: Contacting the Purchaser

36.1 Following the opening of the Tenders and until the Contract is signed no Tenderer shall make any unsolicited communication to the Purchaser or try in any way to influence the Purchaser's examination and evaluation of the Tenders.

36.2 Any effort by a Tenderer to influence the Purchaser in its decisions on the examination, evaluation, comparison, and post-qualification of the Tenders or Contract award may result in the rejection of its Tender.

36.3 Notwithstanding ITT Sub Clause 36.1, from the time of Tender opening to the time of Contract award, if any Tenderer wishes to contact the Purchaser on any matter related to the tendering process, it should do so in writing.

37. Tender: Responsive ness

37.1 The Purchaser's determination of a Tender's responsiveness is to be based on the contents of the Tender itself without recourse to extrinsic evidence.

37.2 A substantially responsive Tender is one that conforms in all respects to the requirements of the Tender Document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:

(a) affects in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or

(b) limits in any substantial way or is inconsistent with the Tender Document, the Purchaser's rights or the Tenderer's obligations under the Contract; or

(c) if rectified would unfairly affect the competitive position of other Tenderers presenting substantially responsive Tenders.

37.3 If a Tender is not substantially responsive to the Tender Document it shall be rejected by the Purchaser and shall not subsequently be made responsive by the Tenderer by correction of the material deviation, reservation or omission.

37.4 There shall be no requirement as to the minimum number of responsive Tenders.

38. Tender: Non-conformities, Errors, and Omissions

38.1 The Purchaser may regard a Tender as responsive even if it contains minor deviations that do not materially alter or depart from the characteristics, terms, conditions and other requirement set forth in Tender Document or if it contains errors or oversights that are capable of being corrected without affecting the substance of the Tender.

38.2 Provided that a Tender is substantially responsive, the Purchaser may request that the Tenderer submits the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the Tender related to documentation requirements. Such omission shall not be related to any aspect of the price of the Tender. Failure by the Tenderer to comply with the request may result in the rejection of its Tender.

39. Tender: Correction of Arithmetical Errors

39.1 Provided that the Tender is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:

(a) if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless, in the opinion of the Purchaser, there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;

(b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

(c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetical error, in which case the amount in figures shall prevail subject to (a) and (b) above.

39.2 Any arithmetical error or other discrepancy, as stated in ITT Sub-clause 39.1, is found it shall be immediately notified to the concerned Tenderer.

39.3 Any Tenderer that does not accept the correction of errors as determined by the application of ITT Sub-clauses 39.1, its Tender shall be disqualified and its Tender Security may be forfeited.

40. Tender: Preliminary Examination

40.1 The Purchaser shall firstly examine the Tenders to confirm that all documentation requested in ITT Clause 17 has been provided, and to determine the completeness of each document submitted.

40.2 The Purchaser shall assess whether the Tenderer's Qualifications as per Section C are substantially met. Any negative determination by the Purchaser will result in rejecting the

Tender as non-responsive without the need for further evaluation as per ITT Clauses 41 and 42.

41.Tender: Technical Evaluation

41.1 The Purchaser shall secondly examine the Tender to confirm that all terms and conditions specified in the GCC and the PCC have been accepted by the Tenderer without any material deviation or reservation.

41.2 The Purchaser will carry out a detailed evaluation of the bids according to the information supplied by the Tenderer through its proposal.

41.3 The Purchaser shall evaluate the technical aspects of the Tender submitted in accordance with ITT Clause 23, to confirm that all requirements specified in Section 7: Technical Specifications, have been met without any material deviation or reservation.

41.4 The Tenderer will be selected on the basis of its proposal, technical approach, its past experience working in this field of expertise (both locally and internationally), and a demonstrated capacity to manage human financial resources. Innovation and creativity are highly encouraged. All proposals should be fully compliant with this tender document. Proposals will be reviewed by a committee of experts to be selected by the Purchaser Board. In addition, the Purchaser Board will also define details about criterion to be used during the evaluation. The broad outline of the evaluation criterion is as follows:

a. Understanding of the existing environment, adaptability and the assignment organization, Management plan (including partnership arrangement), work plan and Performance Monitoring plan :-20%
b. Personal and Institutional Capacity and Experience : 10%
c. Technical Approch : 40 %
d. Financial Offer : 30%

41.5 If, after the examination of the terms and conditions and the technical aspects of the Tender with the marking criteria, the Purchaser determines that the Tender is not substantially responsive in accordance with ITT Clause 37, it shall reject the Tender.

42. Tender: Financial Evaluation

42.1 The Purchaser shall thirdly evaluate each Tender that has been determined, up to this stage of the evaluation, to be substantially responsive.

42.2 To evaluate a Tender, the Purchaser shall consider the following:

(a) the Tender price as quoted in accordance with ITT Clauses 18 and 20, excluding local taxes (VAT and other taxes) which will be payable by the Tenderer on the goods if contract is awarded);
(b) price adjustment for correction of arithmetical errors pursuant to ITT Sub-Clause 39.1;
(c) the applicable economic factors of evaluation is 30% marks of the total financial value as set out in ITT Sub-Clause 42.3.

42.3 The Purchaser's economic evaluation of a Tender will take into account, in addition to the delivered price offered in accordance with ITT Sub-Clause 18.1, one or more of the factors affecting the economic value of the Tender from the list below, as specified in the TDS, and as quantified in ITT Sub-Clause 42.5:

(a) the delivery schedule offered in the Tender; and
(b) the cost of components, mandatory spare parts, and service;
(c) the availability in Bangladesh of spare parts and after-sales services for the equipment offered in the Tender;
(d) the projected operating and maintenance costs during the anticipated life-cycle of the equipment;
(e) the performance and productivity of the equipment offered; or
(f) any other specific criteria as specified in Section 7: Technical Specifications.

42.4 For those factors specified in ITT Sub Clause 42.3 which are selected to be considered in the evaluation of the Tenders, one or more of the following quantification methods shall be applied, as specified in the TDS.

a) *Delivery schedule:*

(i) The goods covered under the IFT are required to be delivered at the time specified in Section 6: Schedule of Requirements. Treating the Tender with the earliest delivery as the base, a delivery 'adjustment' will be calculated for other Tenders for the purpose of evaluation, by applying a percentage, as specified in the TDS, of the Tender price for each week of delay beyond the base, and this will be added to the Tender price for evaluation. No credit shall be given to early delivery. or

(ii) The goods covered under the IFT are required to be delivered within an acceptable range of weeks as specified in Section 6: Schedule of Requirements. No credit shall be allowed to earlier deliveries, and Tenders offering delivery beyond this range shall be treated as non-responsive.

Within this acceptable range, an adjustment per week, as specified in the TDS, will be added, for the purpose of evaluation, to the Tender price of Tenders offering deliveries later than the earliest delivery period specified in Section 6: Schedule of Requirements. Or

(iii) The goods covered under the IFT are required to be delivered in partial shipments, as specified in Section 6: Schedule of Requirements. Tenders offering deliveries later than the specified deliveries will be adjusted for the purpose of evaluation by adding to the Tender price a factor equal to a percentage, as specified in the TDS, of the Tender price per week of variation from the specified delivery schedule.

(b) *Cost of components and mandatory spare parts:*
The schedule of items and quantities of major assemblies, components, and selected spare parts, likely to be required during the initial period of operation specified in the TDS is annexed to Section 7: Technical Specifications. The total cost of these items, at the unit prices quoted in each Tender, will be added to the Tender price.

(c) *Spare parts and after sales service facilities in Bangladesh:*
The cost to the Purchaser of establishing the minimum service facilities and parts inventories, as outlined in the TDS or Section 7: Technical Specifications, if quoted separately, shall be added to the Tender price.

(d) *Projected operating and maintenance costs:*
Operating and maintenance costs of the goods will be evaluated in in accordance with the criteria specified in the TDS or in Section 7: Technical Specifications.

(e) *Performance and productivity of the equipment:*

(i) Tenderers shall state the guaranteed performance or efficiency of their equipment offered in response to Section 7:Technical Specifications. For each drop in the performance or efficiency below the norm of 100, an adjustment for an amount specified in the TDS will be added to the Tender price for the purpose of evaluation, representing the capitalized cost of additional operating costs over the life of the plant, using the methodology specified in Section 7: Technical Specifications. Or

(i) Equipment offered shall have a minimum productivity specified under the relevant provision in Section 7: Technical Specifications, to be considered responsive. Evaluation shall be based on the cost per unit of the actual productivity of goods offered in the Tender, and adjustment will be added to the Tender prices for the purpose of evaluation, using the methodology specified in Section 7: Technical Specifications.

42.5 To determine the lowest evaluated the Purchaser shall:

(a) evaluate only which comply with the requirements specified in ITT Sub-Clause 20.3;

(b) take into account:

(i) the experience and resources sufficient to meet the aggregate of the qualifying criteria ;

(ii) the lowest-evaluated Tender for calculated in accordance with the requirements of Evaluation Criteria;

(iii) the price reduction and the methodology for their application as offered by the Tenderer in its Tender; and

(iv) the Contract award sequence that provides the optimum economic combination, taking into account any limitations due to constraints in supply or execution capacity determined in accordance with the post-qualification criteria under ITT Clause 45.

43. Tender: No Negotiation

43.1 No negotiation shall be held with the lowest or any other Tenderer.

43.2 A Tenderer shall not be required, as a condition for award, to undertake responsibilities not stipulated in the Tender Document, to change its price or otherwise to modify its Tender.

44. Tender: Comparison

44.1 The Purchaser shall compare all substantially responsive Tenders to determine the lowest-evaluated Tender, in accordance with ITT Clause 42.

45. Tenderer: Post-qualification

45.1 The Purchaser shall determine to its satisfaction whether the Tenderer that is selected as having submitted the lowest evaluated and substantially responsive Tender is qualified to perform the Contract satisfactorily.

45.2 The determination shall be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT Clause 24, to

clarifications in accordance with ITT Clause 35 and the qualification criteria indicated in ITT Clauses 11, 12 and 13. Factors not included therein shall not be used in the evaluation of the Tenderer's qualification.

45.3 An affirmative determination shall be a prerequisite for award of the Contract to the Tenderer. A negative determination shall result in rejection of the Tenderer's Tender, in which event the Purchaser shall proceed to the next lowest evaluated Tender to make a similar determination of that Tenderer's capabilities to perform satisfactorily.

46. Tenders: Purchaser's Right to Accept or to Reject Any or All

46.1 The Purchaser reserves the right to accept any Tender, to annul the Tender process, or to reject any or all Tenders, at any time prior to contract award, without thereby incurring any liability to the affected Tenderers, or any obligation to inform Tenderers of the grounds for the Purchaser's actions.

G. Contract Award

47. Award Criteria

47.1 Awards will be made to responsible Tenderer whose offer the greatest value, cost and other factors considered. Purchaser chooses the offer that will be more comprehensive. Information relating to the examination, clarification, evaluation and comparison of bids and recommendations for the award of a contract shall not be disclosed to Tenderers or any persons not officially concerned with such process until the award to the successful Tenderer has been announced. Any efforts by a Tenderer to influence the Purchaser's processing of bids or award decision may result in rejection of the Tenderer's bid.

Cost proposal will be evaluated for cost reasonableness, allocability, alloability, cost effectiveness and realism, adequacy of budget details and financial feasibility.

48. Purchaser's Right to Vary Quantities

48.1 The Purchaser reserves the right at the time of Contract Award to increase or decrease the quantity, per item, of Goods and Related Services originally specified in Section 6: Schedule of Requirements, provided this does not exceed the percentages indicated in the TDS, and without any change in the unit prices or other terms and conditions of the Tender and the Tender Document.

49. Notification of Award

49.1 Prior to the expiration of the period of Tender validity, the Purchaser shall notify the successful Tenderer, in writing, that its Tender has been accepted.

49.2 Until a formal Contract is prepared and executed, the Notification of Award shall constitute a binding Contract.

49.3 The Notification of Award shall state the value of the proposed Contract, the amount of the Performance Security, the time within which the Performance Security shall be submitted and the time within which the Contract shall be signed.

50. Performance Security

50.1 Within fourteen (14) days of the receipt of Notification of Award from the Purchaser, the successful Tenderer shall furnish Performance Security for the due performance of the Contract in the amount specified in the TDS, using for that purpose the Performance Security Form (Form G-8) furnished in Section 5: Tender and Contract Forms.

50.2 The Performance Security shall be valid until a date twenty-eight (28) days after the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations.

50.3 The proceeds of the Performance Security shall be payable to the Purchaser unconditionally upon first written demand as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

51. Contract: Signing

51.1 At the same time as the Purchaser issues the Notification of Award, the Purchaser shall send the Contract Agreement and all documents forming the Contract, to the successful Tenderer.

51.2 Within twenty-one (21) days of receipt of the Contract Agreement, the successful Tenderer shall sign, date and return it to the Purchaser.

51.3 Failure of the successful Tenderer to submit the Performance Security pursuant to ITT Clause 51 or sign the Contract pursuant to ITT Sub-Clause 52.2 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender Security. In that event, the Purchaser may award the Contract to the next lowest evaluated responsive Tenderer at their quoted price (corrected for arithmetical errors), who is assessed by the Purchaser to be qualified to perform the Contract satisfactorily.

51.4 Immediately upon receipt of the signed Contract Agreement and Performance Security from the successful Tenderer, the Purchaser shall discharge and return the successful Tenderer's Tender Security.

52. Advising Unsuccessful Tenderers

52.1 Upon the successful Tenderer furnishing Performance Security pursuant to ITT Clause 50, and signing the Contract pursuant to ITT Clause 51, the Purchaser shall also notify all other Tenderers that their Tenders have been unsuccessful.

52.2 The Purchaser shall promptly respond in writing to any unsuccessful Tenderer who, after notification in accordance with ITT Sub-Clause 52.1, requests in writing for the Purchaser to communicate the grounds on which its Tender was not selected.

53. Tenderer: Right to Complain

53.1 Any Tenderer has the right to complain if it has suffered or may suffer loss or damage due to a branch of a duty imposed on the Purchaser by the Public Procurement Regulations 2008 (PPR).

53.2 The Complaint shall firstly be processed through an administrative review following the procedures set act in Regulation 51 of the PPR. The place and address for the first step in the submission of complaints to the Administrative Authority is provided in the TDS.

53.3 If not satisfied with the outcome of the administrative review, the Tenderer may complain to the Review Panel pursuant to Regulation 53 of the PPR.

Section 2. Tender Data Sheet

ITT Clause Reference	Amendments of, and Supplements to, Clauses in the Instruction to Tenderers
	A. General
ITT 1.1	**The Purchaser:** Rupali bank Ltd., Computer Division, Head office, Dhaka.
	The identification of the Tender is: Tender for 1) Data Center, 2) DRC, 3) Core Banking Solution and 4) Capacity building of RBL.
	The number and identification of contracts comprising this Tender are: HO/COM/-------
ITT 2.1	The source of public fund is: *Bank's Own Fund.*
ITT 4.1	Tenderers from the following countries are not eligible: *Israel*
ITT 5.1	Goods and Related Services from the following counties are not eligible: *Israel*
	B. Tender Document
ITT 7.2	Authorized agents of the Purchaser for the purpose of providing tender documents: 1. Computer Division (9th Floor), Rupali Bank Ltd., Head Office, 34 Dilkusha C/A, Dhaka-1000 2. Establishment Division (7th Floor), Rupali Bank Ltd., Head Office, 34 Dilkusha C/A, Dhaka-1000 3. Interested Tenderers may view the documents at the website of the Bank. (Website: www.rupalibank.org)
ITT 8.1	For clarification of tender purposes only, the Purchaser's address : General Manager, Computer , Rupali Bank Limited, (2nd floor), Head Office, 34 Dilkusha C/A, Dhaka-1000, Phone:880-2-9567093, FAX-880-2-9564148
ITT 9.1	No a pre-bid meeting will be held.
	C. Qualification Criteria
ITT 11.1 & 11.2	1. The Tenderer is encouraged to form consortium/partnership (not more than three partners/member organization exclusive/non-exclusive in a group) and at least one member organization of the consortium should be a Bangladesh registered organization. Bangladesh registered organizations are free to participate in one or more bids as non-exclusive partner. However, if a Bangladesh registered organization participates in the bid as the lead bidder they will be considered as the "exclusive" partner. The **prime/lead partner should not be** non-exclusive partner in one or more bids. Among the key personnel in the bid either the Team Leader or Deputy Team Leader should be a Bangladesh Citizen. In case of other professionals to be involved in the project, preference will be given to local (Bangladeshi) consultants and experts supported by short term international experts. The prime/lead Tenderer will be fully responsible for contractual obligations including financial and management. In case of consortium, legal documentation on partner role and responsibility should be included as an attachment to the management plan of the bid proposal. 2. The Tenderer (**prime/lead** and/or support partner) must have experience of design, supply, delivery, install, test, commission and maintenance of such a state of the art turnkey solution for large corporate of at least five organizations of which at least two in the banking industry. Brief case studies should be added in this regard **with documentary evidence.** 3. The prime/lead Tenderer preferably should have an office in Dhaka, Bangladesh. However, if the local presence is not there, the prime/lead Tenderer must give an undertaking for establishment of an office, within six months of award of the contract. 4. The Tenderer should submit valid letter from OEM's confirming the following: • Authorization for Tenderer • Confirm that the products quoted are not end of life products • Undertake that the support including spares, patches for the quoted products shall be available for next 6 (six) years.

	5. The Tenderer and OEM should have at least one of the following accreditations/ certifications: ISO 27001, ISO 9001, SEI CMM Level 5. The Tenderer must furnish valid certificate copies. 6. Prime/lead Tenderer should have the capability to implement the proposed solution and provide post implementation support including up-time and response-time guarantees pertaining to all components of the proposed solution. Lead/Partner Tenderer should demonstrate that they will have presence in Bangladesh beyond the project period (at least after three years) to provide post implementation support based on project needs. 7. The successful Bidder shall be the Contractor for all the products and services offered and are fully responsible for the overall project management and co-ordination of the supply, installation, integration, testing, training and commissioning for the implementation of the solution. The scope of the bid includes design, specification, bill of quantity and prices of the items as detailed in this document and any other items that deem necessary but not mentioned in this document. An inception report will be prepared by the bidder and submitted for approval by RBL during the first quarter after signing the contract. This inception report will provide clarifications and justifications (based on the proposal submitted by the bidder) on the proposed detailed technical, management, financial and other relevant plans and will also indicate required specific support expected from RBL. The inception report will also clearly set the milestones based on specific deliverables to be listed in the proposal. 8. Tenderer (Prime /lead or consortium member) who wish to participate should meet the following eligibility criteria: • The Tenderer may be a national or international organization/government organization/ Public sector unit/ Limited Company/ Private Limited Company or a combination of registered organizations. Relevant documents of the same **have** to be submitted. • The Tenderer (Prime/Lead or consortium member) have been in existence for and must be engaged in the business of integration of IT Projects for at least 3(Three) years as on the date of notice inviting this Tender. Related document must be submitted as part of the proposal with special reference to Banking clients • The Minimum average annual turnover or credit facilities or Asset Value of the Prime/Lead Tenderer not less than 50 crore in proceeding three financial years. • The Prime/lead Tenderer **should** have a positive net-worth and made profits for the last three years. • The Prime/Lead Tenderer must certify that they have successfully completed a project of supplying similar goods with minimum value **of** Tk. 10(Ten) crore under a single contract in the last 3(three) years. • The Consortium/Partnership must have strong presence and support office in Dhaka City, Bangladesh with well-equipped service cell manned by adequately qualified technical personnel for maintenance and support of the proposed DC, DRC and Core Banking Solution. • The Tenderer must demonstrate clearly that they will be able to utilize the existing investments made by bank through the use of infinity solutions and computerization in RBL Head Office, Zonal office/Control Offices and branches during the last few years. A plan in this regard should be included as a component of the technical plans. The Tenderer (Prime/Lead and/or consortium member) should have demonstrated satisfactory capability of having designed, implemented and maintained a Wide Area Network (WAN) that connects branches of at least two Private / Public Sector Banks as Rupali Bank Ltd. in the region, to the Data Centre and Disaster Recovery Centre of the service provider with guaranteed uptime and response time.
ITT 12.1(a)	The Tenderer shall have IT Projects for at least 3(Three) years as on the date of Notice inviting this Tender. Related document **must** be submitted as part of the proposal with special reference to Banking clients.

ITT 12.1 (b)	The Tenderer **(Lead/Prime and/or Consortium Member)** shall have a minimum of 3(*Three)* years of specific experience in the supply of their respective goods and related services. If the Tenderer is formed as consortium then each consortium member must have minimum of 3(three) years of specific experience in the supply of their respective goods and services according to the responsibility of the consortium/partnership agreement.
ITT 12.1(c)	**The Tenderers should agree to share the Source Code of the Core Banking Solution based on the ESCROW Agreement defined by the Bank. This has to be in an undertaking letter submitted with the Tenderers Proposal.(Form G-10)** The minimum production capacity or availability of equipment is/ are: *"None"*
ITT 13.1(a)	The Prime/Lead Tenderer must have minimum supply value of goods under a single contract in the last five years is *Tk. 10 (ten) Core* .
ITT 13.1(b)	The Prime/Lead Tenderer must have minimum amount of liquid asset or working capital or credit facility or Assets Value is *Tk.50 (fifty) Core.*
D. Tender Preparation	
ITT 16.1	The Tender, as well as all correspondence and documents relating to the Tender shall be written in *English or Bangla* language.
ITT 17.1(j)	The Tenderer shall submit with its Tender the following mandatory documents: i. A Valid Trade License ii. Certificate of Incorporation. iii. Up to date Income Tax Clearance Certificate iv. VAT Registration Certificate v. Copies of annual report and audited balance sheet for the last three years ending 30 June 2008, 30 June 2009 and 30 June 2010 for the prime/lead Tenderer. vi. Copy of agreements, legal documents, including agreement with other partners with whom the Prime/lead Tenderer will work in the consortium to provide the proposed solution. vii. Valid Agency ship /distributor /reseller Certificate from the Manufacturer. viii. ABC License for substation and other electrical work. ix. BTRC License with up-to-date renewal certificate from Link Provider x. Catalogue of the offer items to be supplied. xi. An undertaking to execute annual maintenance contract before expiry of warranty period. xii. Undertaking letter (notarised) relating to source code (ref. ITT 24.5) xiii. Authorization Letter for Tender submission xiv. Submit the technical specification of each item as per schedule of requirement including followings : ❖ Technical Specification of Core banking Solution. ❖ Technical Specification of Proposed RDMS and Operation System. ❖ Implementation schedule. ❖ Design Layout of DC & DRC ❖ Documents and brochures pertaining to the Core banking solution that will be deployed in the proposed solution. ❖ Current installed base of CBS clients, with details client-wise core banking application deployed, number of branches and list of services provided. ❖ A plan for integrating existing computerization and data migration from infinity solutions used by RBL to the proposed new systems and solutions to established under this contract. ❖ Any other document of the partner Tenderer(s) which will support the capacity of prime/lead Tenderer
ITT 19.1	Alternative offer will not be permitted. If alternative offer is submitted the bid offer will be rejected.
ITT 20.3 & ITT 42.4	Tenders are being invited for a single Tender.
ITT 20.4 (c)	The final destination of the goods is: *Head Office, Zonal Office/Control Office and branches of Rupali Bank Ltd as defined in schedule of requirement..*
ITT 20.4 (d)	The Tenderer shall price for the following incidental services: *Installation, customisation, Data Migration, Implementation, training, commissioning, Licensing ,Certification and test run etc.*

ITT 20.6	The prices quoted by the Tenderer shall be *fixed* for the duration of the Contract.
ITT 22.2	A Manufacturer's Authorisation Letter is required for all the items listed in Section 6: Schedule of Requirements.
ITT 24.5	The Tenderers should agree to share the Source Code of the Core banking Solution based on the ESCROW Agreement defined by the Bank. This has to be in an undertaking letter submitted with the Tenderers Proposal (Form G-10)
ITT 26.1	The tender validity period shall be *120[one hundred twenty]* days.
ITT 27.1	The amount of the tender security shall be *Tk 01(one)* crore.
ITT 28.1	In addition to the original of the Tender, ***6(six)*** copy shall be submitted.
E. Tender Submission	
ITT 29.2(b)	For **tender submission purposes** only, the Purchaser's address is: Attention: Deputy General Manager Address: Establishment Division (7th Floor), Rupali Bank Ltd., Head Office, 34, Dilkusha C/A, Dhaka-1000. The deadline for submission of Tenders is *2.30 P.M. on 29/06/2011.*
ITT 29.2(c)	The inner and outer envelope shall bear the following additional identification marks: **The name of the tender is**: Tender for 1) Data Center, 2) DRC, 3) Core Banking Solution and 4) and Capacity building of RBL. The Tender Number is: 13/2011 Ref. No: HO/COM/372
F. Tender Opening and Evaluation	
ITT 33.1	The tender opening shall take place at: Address: Establishment Division (7th Floor), Rupali Bank Ltd., Head Office, 34 Dilkusha C/A, Dhaka-1000. Date & Time: 29/06/2011 *at 3.00 PM.*
ITT 42.4	The applicable economic factors for evaluation will include: a the work plan and delivery schedule offered in the Tender; and b the cost of components, mandatory spare parts, and service; c the availability in Bangladesh of spare parts and after-sales services for the equipment offered in the Tender; d the projected operating and maintenance costs during the anticipated life-cycle of the equipment; e the performance and productivity of the equipment offered. f the effective transfer and migration of data (SQL) from the existing Infinity Banking Solution.
ITT 42.4(b)	Cost of components and mandatory spare parts: *None.*
ITT 42.4(c)	Cost of Spare parts and after-sales service facilities in Bangladesh: *None.*
ITT 42.4(d)	Projected operating and maintenance costs: *None.*
ITT 42.4(e)	Performance and productivity of equipment: *None.*
ITT 43.1 **ITT 43.2**	The purchaser may decide to negotiate technical detail with only the successful Tenderer.
G. Contract Award	
ITT 48.1	The maximum percentage by which quantities per item may be increased or decreased is *15%.*
ITT 50.1	The amount of Performance Security shall be ten *[10]* percent of the Contract Price.
ITT 53.2	The name and address of the office where complaints to the Procuring Entity under Regulation 51 are to be submitted is: *Managing Director, Rupali Bank Ltd.,34 Dilkusha C/A, Head Office, Dhaka, Bangladesh.*

Section 3. General Conditions of Contract

1. Definitions

1.1 The following words and expressions shall have the meaning hereby assigned to them. Boldface type is used to identify the defined term:

(a) **Completion Schedule** means the fulfilment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract;

(b) **Contract Agreement** means the Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein;

(c) **Contract Documents** means the documents listed in the Contract Agreement, including any amendments thereto;

(d) **Contract Price** means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract;

(e) **Day** means calendar day;

(f) **Delivery** means the transfer of ownership of the Goods from the Supplier to the Purchaser in accordance with the terms and conditions set forth in the Contract;

(g) **GCC** mean the General Conditions of Contract;

(h) **Goods** means all of the commodities, raw materials, machineries and equipments, products and/or other materials in solid, liquid or gaseous form that the Supplier is required to supply to the Purchaser under the Contract, as specified in the PCC;

(i)**Government** means the Government of the People's Republic of Bangladesh;

(j)**Purchaser** means the entity purchasing the Goods and Related Services, as specified in the PCC;

(k) **Related Services** means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance and other similar obligations of the Supplier under the Contract;

(l)**PCC** means the Particular Conditions of Contract;

(m) **Subcontractor** means any natural person, private or government entity, or a combination of the above, including its legal successors or permitted assigns, who has a Contract with the Supplier to carry out a part of the supply in the Contract, or a part of the Related Services of the Contract;

(n) **Supplier** means the natural person, private or government entity, or a combination of the above, whose Tender to perform the Contract has been accepted by the Purchaser and is named as such in the PCC and the Contract Agreement, and includes the legal successors or permitted assigns of the Supplier;

(o) **Writing** means any hand-written, type-written, or printed communication including telex, cable and facsimile transmission

2. Contract Documents

2.1 Subject to the order of precedence set forth in the GCC Sub-Clause 5.1, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory.

3. Corrupt, Fraudulent, Collusive or Coercive Practices

3.1 The Government requires that Purchasers, as well as Suppliers, shall observe the highest standard of ethics during the implementation of procurement proceedings and the execution of contracts under public funds.

3.2 In pursuance of this requirement, the Purchaser shall:

(a) exclude the Supplier from participation in the procurement proceedings concerned or reject a proposal for award; and

(b) declare a Supplier ineligible, either indefinitely or for a stated period of time, from participation in procurement proceedings under public funds;

if it at any time determines that the Supplier has engaged in corrupt, fraudulent, collusive or coercive practices in competing for, or in executing, a contract under public funds.

3.3 Should any corrupt, fraudulent, collusive or coercive practice of any kind referred to in GCC Sub-Clause 3.4 hereunder come to the knowledge of the Purchaser, it shall, in the first place, allow the Supplier to provide an explanation and shall, take actions as stated in GCC Sub-Clause 3.2 and GCC Sub-Clause 38.1(c) only when a satisfactory explanation is not received. Such exclusion and the reasons thereof shall be recorded in the record of the procurement proceedings and promptly communicated to the Supplier concerned. Any communications between the Supplier and the Purchaser related to matters of alleged corrupt, fraudulent, collusive or coercive practices shall be in writing.

3.4 The Government defines, for the purposes of this provision, the terms set forth below as follows:

(a) *"corrupt practice"* means offering, giving, or promising to give, directly or indirectly, to any officer or employee of a Procuring Entity or other governmental/private authority or individual a gratuity in any form, an employment or any other thing or service of value, as an inducement with respect to an act or decision of, or method followed by, a Procuring Entity in connection with the procurement proceeding;

(b) *"fraudulent practice"* means a misrepresentation or omission of facts in order to influence a procurement proceeding or the execution of a contract to the detriment of the Purchaser;

(c) *"collusive practice"* means a scheme or arrangement among two or more Tenderers with or without the knowledge of the Purchaser (prior to or after Tender submission) designed to establish Tender prices at artificial, non-competitive levels and to deprive the Purchaser of the benefits of free, open and genuine competition; and

(d) *"coercive practice"* means harming or threatening to harm, directly or indirectly, persons or their property to influence the procurement proceedings or affect the execution of a contract.

3.5 The Supplier shall permit the Purchaser to inspect the Supplier's accounts and records and other documents relating to the submission of the Tender and Contract performance.

4. Interpretation

4.1 In interpreting the GCC, singular also means plural, male also means female or neuter, and the other way around. Headings in the GCC shall not be deemed part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract. Words have their normal meaning under the English language unless specifically defined.

4.2 Entire Agreement

(a) The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of parties with respect thereto made prior to the date of Contract Agreement.

4.1 Amendment

(a) No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorised representative of each party thereto.

4.4 Non-waiver

(a) Subject to GCC Sub-Clause 4.4(b), no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

(b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorised representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

4.5 Severability

(a) If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

4.6 Partial Supply

(a) If partial supply is specified in the Schedule of Requirements, references in the GCC to the Supply and to the Delivery Date shall apply to any portion of the Supply (other than references to the Completion Date for the whole of the Supply).

5. Documents Forming the Contract and Priority of Documents

5.1 The following documents forming the Contract shall be interpreted in the following order of priority:

(a) the signed Contract Agreement;
(b) the letter of Notification of Award
(c) the completed Tender Submission Sheet as submitted by the Tenderer;
(d) the completed Price Schedules as submitted by the Tenderer;
(e) the Particular Conditions of Contract;
(f) the General Conditions of Contract;
(g) the Schedule of Requirements;
(h) the Technical Specifications;
(i) the Drawings, and;
(j) any other document listed in the PCC as forming part of the Contract.

6.	Eligibility	6.1 The Supplier and its Sub-Contractors shall have the nationality of a country other than those specified in the PCC.
		6.2 All Goods and Related Services supplied under the Contract shall have their origin in the countries except those specified in the PCC.
7.	Governing Language	7.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser shall be written in English, unless otherwise stated in the PCC. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Contract, this translation shall govern.
		7.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation.
8.	Governing Law	8.1 The Contract shall be governed by and interpreted in accordance with the laws of the People's Republic of Bangladesh.
9.	Gratuities / Agency fees	9.1 No fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the Tender or the contract, shall be given or received in connection with the procurement process or in the contract execution.
10.	Joint Venture, Consortium or Association (JVCA)	10.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfilment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.
11.	Confidential Information	11.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 11.
		11.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the design, procurement, or other work and services required for the performance of the Contract.
		11.3 The obligation of a party under GCC Sub-Clauses 11.1 and 11.2 above, however, shall not apply to information that: (a) the Purchaser or Supplier needs to share with institutions participating in the financing of the Contract; (b) now or hereafter enters the public domain through no fault of that party; (c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.
		11.4 The above provisions of GCC Clause 11 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.
		11.5 The provisions of GCC Clause 11 shall survive completion or termination, for whatever reason, of the Contract.
12.	Communications and Notices	12.1 Communications between Parties (notice, request or consent required or permitted to be given or made by one party to the other) pursuant to the Contract shall be in writing to the addresses specified in the PCC.
		12.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.
		12.3 A Party may change its address for notice hereunder by giving the other Party notice of such change to the address.

13. Patent and Intellectual Property Rights

13.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 13.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property rights registered or otherwise existing at the date of the Contract by reason of:

(a) the installation of the Goods by the Supplier or the use of the Goods in Bangladesh; and

(b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

13.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 13.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

13.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.

13.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

13.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

14. Copyright

14.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.

15. Assignment

15.1 The Supplier shall not assign, in whole or in part, its obligations under the Contract, except with the Purchaser's prior written consent.

16. Sub contracting

16.1 The Supplier shall obtain approval of the Purchaser in writing of all Sub-Contracts to be awarded under the Contract if not already specified in the Tender. Sub-Contracting shall in no event relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.

16.2 Subcontractors shall comply with the provisions of GCC Clause 3.

17. Supplier's Responsibilities

17.1 The Supplier shall supply all the Goods and Related Services specified in the Scope of Supply in conformity in all respects with the provisions of the Contract Agreement.

18. Purchaser's Responsibilities

18.1 The Purchaser shall pay the Supplier, in consideration of the provision of Goods and Related Services, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and manner prescribed in the Contract Agreement.

19. Scope of Supply

19.1 The Goods and Related Services to be supplied shall be as specified in Section 6: Schedule of Requirements.

19.2 Unless otherwise stipulated in the Contract, the Supply shall include all such items not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining delivery of the Goods and completion schedule of the Related Services as if such items were expressly mentioned in the Contract.

20. Change Orders and Contract Amendments

20.1 The Purchaser may at any time order the Supplier through a notice in accordance with GCC Clause 12, to make changes within the general scope of the Contract in any one or more of the following:

(a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser provided such changes do not materially affect the scope of supply;
(b) the method of shipment or packing;
(c) the place of delivery; and
(d) the Related Services to be provided by the Supplier.

20.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be submitted within twenty-eight (28) days from the date of the Supplier's receipt of the Purchaser's Change Order.

20.3 Prices to be charged by the Supplier for any Related Services that might be needed, but which were not included in the Contract, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

21. Packing and Documents

21.1 The Supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

21.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in the PCC, and in any subsequent instructions ordered by the Purchaser

22. Delivery and Documents and Acceptance

22.1 Subject to GCC Sub-Clause 20.1, the Delivery of the Goods and completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Section 6: Schedule of Requirements.

22.2 The documents to be furnished by the Supplier shall be specified in the PCC, and shall be received by the Purchaser at least one week before arrival of the Goods and, if not received, the Supplier shall be responsible for consequent expenses.

22.3 Acceptance by the Purchaser shall be processed not later than fourteen (14) days from receipt of the goods at final destination in the form of an Acceptance Certificate, unless any defects in the supply, any damage during transport or any failure to meet the required performance criteria of the supply are identified and reported to the Supplier in accordance with GCC Clause 31 and GCC Clause 32. In such cases the Acceptance Certificate will be issued only for those parts of the contract supplies which are accepted. The Acceptance Certificate for the remaining supplies will only be issued after the Supplier has remedied the defects and/or any non-conformity in accordance with GCC Clause 31 and GCC Clause 32.

23. Contract Price

23.1 The Contract Price shall be as specified in the Contract Agreement subject to any additions and adjustments thereto, or deductions therefrom, as may be made pursuant to the Contract.

23.2 Prices charged by the Supplier for the Goods delivered and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its Tender, with the exception of any price adjustments authorised in the PCC.

24. Transportation

24.1 Where the Supplier is required under the Contract to transport the Goods to a specified place of destination within Bangladesh, defined as the Site, transport to such place of destination including insurance, and other incidental costs, and temporary storage, if any, as shall be specified in the Contract, shall be arranged by the Supplier, and related costs shall be included in the Contract Price.

25. Spare Parts

25.1 As specified in the PCC, the Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

(a) such spare parts as the Purchaser may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under the Contract; and
(b) in the event of termination of production of the spare parts :
    (i) advance notification to the Purchaser of the pending termination, in

sufficient time to permit the Purchaser to procure needed requirements; and

(ii) following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings, and specifications for the spare parts, if requested.

25.2 The Supplier shall carry sufficient inventories to assure ex-stock supply of spare parts as promptly as possible, but in any case within the time specified in the PCC for placing the order and opening the letter of credit.

26. Terms of Payment

26.1 The Contract Price, including any Advance Payments, if applicable, shall be paid in the manner as specified in the PCC.

26.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Related Services performed, and accompanied by the documents pursuant to GCC Clause 22 and upon fulfilment of any other obligations stipulated in the Contract.

26.3 Payments shall be made promptly by the Purchaser, no later than the dates indicated in the PCC.

26.4 In the event that the Purchaser fails to pay the Supplier any payment by its respective due date or within the period set forth in the PCC, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate shown in the PCC, for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.

27. Insurance

27.1 Unless otherwise specified in the PCC, the Goods supplied under the Contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in the manner specified in the PCC.

28. Taxes and Duties

28.1 The Supplier shall be entirely responsible for all taxes, duties, license fees, and other such levies imposed or incurred until delivery of the contracted goods to the Purchaser.

29. Performance Security

29.1 In the case of Goods having warranty obligations the Performance Security shall be reduced to the amount specified in the PCC after delivery and acceptance of the Goods to cover the Supplier's warranty obligations in accordance with GCC Sub-Clause 32.3.

29.2 The Purchaser shall notify the Supplier of any claim made against the Bank issuing the Performance Security.

29.3. The Purchaser may claim against the security if any of the following events occurs for fourteen (14) days or more;

(a) the Supplier is in breach of the Contract and the Purchaser has notified him that he is; and

(b) the Supplier has not paid an amount due to the Purchaser.

29.4 In the event the Supplier is liable to pay compensation under the Contract amounting to the full value of the Performance Security or more, the Purchaser may forfeit the full amount of the Performance Security.

29.5 If there is no reason to call the Performance Security, it shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations.

30. Specifications and Standards

30.1 The Supplier shall ensure that the Goods and Related Services comply with technical specifications and other provisions of the Contract.

30.2 The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.

30.3 The Goods and Related Services supplied under this Contract shall conform to the standards mentioned in Section 7: Technical Specifications and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the goods' country of origin.

30.4 Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 20.

31. Inspections and Tests

31.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the Schedule of Requirements.

31.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor and/or at the Goods' final destination, or in another place in Bangladesh as specified in the PCC. Subject to GCC Sub-Clause 31.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.

31.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 31.2, provided that the Purchaser bear all of its own costs and expenses incurred in connection with such attendance including, but not limited to, all travelling and board and lodging expenses.

31.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.

31.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract, but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications, codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impede the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.

31.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.

31.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 31.4.

31.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 31.6, shall release the Supplier from any warranties or other obligations under the Contract.

32. Warranty

32.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

32.2 Subject to GCC Sub-Clause 30.1, the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in Bangladesh.

32.3 Unless otherwise specified in the PCC, the warranty shall remain valid for thirty six (36) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the PCC.

32.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.

32.5 Upon receipt of such notice, the Supplier shall, within the period specified in the PCC, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.

32.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the PCC; the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

33. Extensions of Time

33.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to GCC Clause 22, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the Parties by amendment of the Contract.

33.2 Except in the case of Force Majeure, as provided under GCC Clause 37, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 34, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 33.1.

34. Liquidated Damages

34.1 Except as provided under GCC Clause 37, if the Supplier fails to deliver any or all of the Goods or perform the Related Services within the period specified in the Contract, the Purchaser may, without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the PCC of the Contract Price of the delayed Goods and/or Related Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in those PCC. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 38.

35. Limitation of Liability

35.1 Except in cases of criminal negligence or wilful misconduct,

(a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and

(b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the Purchaser with respect to patent infringement.

36. Change in Laws and Regulations

36.1 Unless otherwise specified in the Contract, if after the date twenty eight (28) days before the submission of Tenders for the Contract, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in Bangladesh (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause 23.

37. Force Majeure

37.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

37.2 For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

37.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

38. Termination

38.1 Termination for Default

(a) The Purchaser, without prejudice to any other remedy for breach of Contract, by giving twenty eight (28) days written notice of default, may terminate the Contract in whole or in part:

(i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 33; or

(ii) if the Supplier fails to perform any other obligation under the Contract.

(b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Sub-Clause 38.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

(c) If the Supplier, in the judgment of the Purchaser has engaged in corrupt, fraudulent, collusive or coercive practices, as defined in GCC Clause 3, in competing for or in executing the Contract.

38.2 Termination for Insolvency.

(a) The Purchaser and the Supplier's may at any time terminate the Contract by giving notice to the other party if either of the party becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to any party, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the other party.

38.3 Termination for Convenience.

(a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

(b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:

(i) to have any portion completed and delivered at the Contract terms and prices; and/or

(ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

39. Settlement of Disputes

39.1 Amicable Settlement

(a) The Purchaser and the Supplier shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or its interpretation.

39.2 Arbitration

(a) If the Parties are unable to reach a settlement as per GCC Clause 39.1(a) within twenty-eight (28) days of the first written correspondence on the matter of disagreement, then either Party may give notice to the other party of its intention to commence arbitration in accordance with GCC Sub-Clause 39.2(b).

(b) The arbitration shall be conducted in accordance with the Arbitration Act (Act No 1 of 2001) of Bangladesh as at present in force and in the place shown in the PCC.

40. Project Reporting Requirements

a) Quarterly technical progress report describing progress made and any problem encountered. These report will include progress on the work plan.

b) Annual reports summarising key accountability and way forward in key areas.

c) final project report within 30 days of completing of project.

Section 4. Particular Conditions of Contract

Instructions for completing the Particular Conditions of Contract are provided, as needed, in the notes in italics mentioned for the relevant GCC clauses.	
GCC Clause Reference	**Amendments of, and Supplements to, Clauses in the General Conditions of Contract**
GCC 1.1 (h)	The nature of the goods to be supplied are : DATA Centre (DC). Disaster Recovery Centre (DRC) , Core Banking Solution and Networking, capacity building of RBL
GCC 1.1(j)	The Purchaser is: Computer Division (9th Floor), Rupali Bank Ltd., Head Office, 34 Dilkusha C/A, Dhaka-1000.
GCC 1.1(n)	The Supplier is: *Tenderer(s) selected for award of contract.*
GCC 5.1(j)	The following documents shall also be part of the Contract: *An undertaking to execute annual maintenance contract before expiry of warranty period.*
GCC 6.1	Suppliers and Sub-contractors from the following countries are not eligible: *Israel.*
GCC 6.2	Goods and Related Services from the following countries are not eligible: *Israel.*
GCC 7.1	Routine correspondence between the parties may be in *English or Bangla.*
GCC 12.1	For **notices**, the Purchaser's contact details shall be: Attention: General Manager Address: Computer Division (2nd Floor), Rupali Bank Ltd., Head Office, 34 Dilkusha C/A, Dhaka-1000 Phone:880-2-9567093, FAX-880-2-9564148 E-mail: it@rupalibank.org For **notices**, the Supplier's contact details shall be: Attention: Address: Telephone: Facsimile number: Electronic mail address:
GCC 21.2	A complete packing list indicating the content of each package shall be enclosed in a water proof envelope and shall be secured to the outside of the packing case. In addition, each package shall be marked with indelible ink/paint in bold letters, as follows: a. Contract Number b. Name and address of Purchaser c. Country of origin d. Gross weight e. Net weight f. Package number of total number of packages g. Brief description of the content Upright markings, where appropriate, shall be placed on all four vertical sides of the package. All materials used for packing shall be environmentally neutral. *If the above formats does not consistent with the supply, mention N/A.*
GCC 22.2	The documents to be provided are as follows: (a) copies of Supplier's invoice showing goods' description, quantity, unit price, total amount; (b) copies of the packing list identifying the contents of each package; (c) manufacturer's/ supplier's warranty certificate (if any); (d) inspection certificate issued by the nominated inspection agency (or Purchaser) and/ or the supplier's factory inspection report (if any); *(e)* certificate of origin.

GCC 23.2	The prices charged for the Goods delivered and the Related Services to be performed shall be fixed for the duration of the contract. The total tender value shall be clearly shown and shall include all costs (including duties, taxes and VAT etc.) related to this tender for each unit of Application Software and other environmental software required for each of the branches and Head Office under reference for automation. The quotation should be prepared on a branch-by-branch/office basis.
GCC 25.1	Additional spare parts requirements are specified in Annex- [ ] of the Specifications. *None*.
GCC 25.2	Within [ ] weeks of placing the order and opening the letter of credit. *N/A*.
GCC 26.1	The method and conditions of payment to be made to the Supplier under this Contract shall be as follows: The payment of the bill will be made in Bangladesh Taka after receipt of the bill in the following manner: 01) Advance payment will not be allowed and No interest will be paid for delay payment. 02) On completion of any component of this assignment **other than CBS**, the Tenderer may submit bills for payment (with certification by RBL concerned department). However RBL will make payment up to a maximum of 75% of the submitted bill. Major component of the assignment are **as per schedule of requirement:** • Design and Civil Work with Interior Decoration of DC & DRC. • Point To Point Dark Fiber Network Between DC & DRC • Data Communication Infrastructure Solution of DC & DRC • LAN Infrastructure of Head Office • Hardware for Core Banking Solution at Data Center (DC) • Hardware for Core Banking Solution at Data Recovery Center (DRC) • Hardware for Core Banking Solution at Pilot Branches and Control Office • Capacity Building of Rupali Bank Ltd. • Email solution • IP Telephony and IP Video Telephony System The rest 25% bill of the above item will be paid on second phase acceptance test after CBS supply, installation and customization at **DC, DRC, Local Office, Corporate Branches , Control Offices and Division as define in Annexure-03** 3) Payment of **Core Banking Solution will be pid in the following way :** i. **40% of CBS, O/S, RDBMS and other software bill will be paid after completion of supply, installation and customization at CAD, ID, GBD, Control (Zonal) Office, 55 Branches and 50 ATM (Pilot Branches, Control Offices and Division) as define in Annexure-03.** ii. The rest amount of the bill for CBS banking system, O/S, RDBMS and other software will be paid for each branch & **Control(Zonal)** Office (on ratio basis) after Data Migration, Implementation and training.
GCC 26.4	No Interest will be pay to the supplier for the payment-delay period.
GCC 27.1	"All risks" insurance, including "war risks, riots, fire, damage and/or strikes" shall be acquired for 110% of the delivered cost of the goods on "Warehouse to Warehouse" basis.
GCC 29.1	The Performance Security shall be reduced to ten (10%) percent of the Contract Price.
GCC 31.2	The Inspections and tests shall be conducted at: destination place of goods and related services mentioned at TDS against ITT 20.5(c). The Purchaser's right to inspect, test and where appropriate reject the Goods after delivery, shall in no way be limited or waived by the reason of Goods having previously been inspected, tested or passed by the Purchaser or its representative prior the Goods shipment.
GCC 32.3 **&** **GCC 32.5**	**Warranty:** i. The Tenderer(s) shall guarantee that the items shall be new and of best quality in workmanship and materials, shall meet the requirements of the buyer and shall be in all respects suited to the purposes intended. Warranty period for all items as specified in the schedule of requirement or items offered by the Tenderer will be 3(Three) years except Civil Work, Furniture, Structure Cabling, Earthling and UPS Battery, ii. The warranty of Civil Work, Furniture, Structure Cabling, Earthling and UPS Battery will 20(twenty years. iii. The warranty period will be counted from the date of satisfactory commissioning certificate to be issued by the Bank after completion assignment.

	iv. The warranty period for Core Banking Solution shall be counted from satisfactory commissioning certificate to be issued by the Bank after 1st phase completion of Pilot Branches, Control Offices and Divisions. v. The warranty period shall be extended by counting down time. The down time will be counted in days. vi. Upgrade models from the same seller of the same capacity of original one will be acceptable in the warranty period vii. The Tenderer shall provide remedy at free of cost to the bank for all defects in design, materials and workmanship which may develop under normal use during warranty period. iii. Full warranty will cover 24x7 hour operation of DC, DRC and Core Banking Solution
	Maintenance: i) On expiry of the warranty period, the bank may sign a maintenance contract with the Tenderer (s) for smooth functioning of supplied equipment, hardware and software used by the Bank. ii) The Tenderer will provide maintenance guarantee in the form of Bank Guarantee for smooth maintenance of supplied equipment, hardware and software at rate of 15% of the maintenance contract value. iii) The Tenderer (s) without any interruption of normal operations DC, DRC and CBS. iv) The Tenderer(s) shall have to give an undertaking to execute maintenance agreement to render maintenance services by their personnel for at least 3(three) years from the date of the expiry of the warranty period of the respective Item as per tender schedule. v) After expiry of first 3(three) years maintenance period, if desire by the Bank, the Tenderer will have to continue maintenance service for next term (3 years) or more. vi) The Tenderer(s) must specify the maintenance charges for each item in Form G-2B as per tender schedule. vii) The charges must be comprehensive under an annual maintenance contract. The maintenance charges shall not be paid in advance. To ensure sufficient operations of the DC, DRC and CBS the Tenderer must keep sufficient competent personnel's to meet emergency situations. If the Tenderer fail to provide maintenance within the acceptable period then RBL will deduct the Maintenance Fees as define in **Penalty & Indemnity clause as per Severity Level Classification and response times in Annexure-06**
GCC 34.1	The liquidated damage shall be one half of one percent (0.5%) of the Contract value per week or part thereof. The maximum amount of liquidated damages shall be: Ten (10%) of the Contract value.
GCC 39.2(b)	Arbitration shall take place in: Dhaka(Rupali Bank Ltd., Head office), Bangladesh.

Section 5. Tender and Contract Forms

Form	Title
	Tender Forms
G – 1	Tender Submission Sheet
G – 2	Price Schedule
G – 3	Specifications Submission Sheet
G – 4	Tenderer Information Sheet
G – 5	Manufacturer's Authorisation Letter
G – 6	Tender Security
	Contract Forms
G – 7	Notification of Award
G – 8	Contract Agreement
G – 9	Bank Guarantee for Performance Security
G – 10	Undertaking Letter

Forms G1 to G6 comprise part of the Tender and should be completed as stated in ITT Clause 17.

Forms G7 to G-10 comprise part of the Contract as stated in GCC Clause 5.

Tender Submission Sheet (Form G – 1)

(To be submitted along with Price Bid)

Invitation for Tender No: Date:
Tender Package No:
To:
[Name and address of Purchase]]

We, the undersigned, offer to supply in conformity with the Tender Document the following Goods and Related Services, viz:

The price of our Tender, excluding price reduction(s) is:

1.Total Price of related goods and services	Tk: (*insert value in figures)*	(*insert value in words*)
2. Total Price of maintenance cost for 3years after 3 years warranty periods.	Tk: (*insert value in figures)*	(*insert value in words*)
Grand Total (1+2)	Tk: (*insert value in figures)*	(*insert value in words*)

If applicable under Instruction to Tenderers (ITT) Sub-Clause 20.3, and in case we are awarded a contract for more than one lot in the package, the discounts/cross- discounts offered, and the methodology for its application is:

We undertake, if our Tender is accepted, to deliver the goods in [ ] (weeks / months) from the date of [ ], in accordance with the delivery schedule specified in the Schedule of Requirements.

We are not participating as Tenderers in more than one Tender in this Tendering process. Our Tender shall be valid for the period stated in the Tender Data Sheet and it shall remain binding upon us and may be accepted at any time before the expiration of that period. A Tender Security in the amount stated in the Tender Data Sheet is attached in the form of a *[state pay order, bank draft]* valid for a period of 28 days beyond the Tender validity date.

If our Tender is accepted, we commit to obtaining a Performance Security in the amount stated in the Tender Data Sheet and valid for a period of 28 days beyond the date of completion of our performance obligations under the Contract, including any warranty obligations.

We declare that ourselves, and any subcontractors or suppliers for any part of the Contract, have nationalities from eligible countries and that the goods and related services will also be supplied from eligible countries. We also declare that the Government of Bangladesh has not declared us, and any subcontractors or suppliers for any part of the Contract, ineligible on charges of engaging in corrupt, fraudulent, collusive or coercive practices. We furthermore, pledge not to indulge in such practices in competing for or in executing the Contract, and are aware of the relevant provisions of the Tender Document (ITT Clause 3).

We understand that your written Notification of Award shall constitute the acceptance of our Tender and shall become a binding contract between us, until a formal contract is prepared and executed.

We understand that you are not bound to accept the lowest evaluated Tender or any other Tender that you may receive.

Signed

In the capacity of:
Duly authorised to sign the Tender on behalf of the Tenderer.
Date:

Price Schedule for Goods (Form G-2A)

Invitation for Tender No: Date:

05.1.01: DATA CENTER (DC) : Price of Related Goods, Design and Civil Work with Interior Decoration of DC (Including Modification of Beam and Existing Room If necessary)

1	2	3	4	5	6	07
Item N° .	Description Of Item	Unit Name	Qty of units Required	Unit price	Total price (col. 4 × 5)	Point of Delivery And Delivery Period Offered
				Note 1, Note 2 Note 3 and Note 4		
05.1.01.1	**Design and Civil Work with Interior Decoration of DC** (Including Modification of Beam and Existing Room If necessary)					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*		*Offered by the tenderer*			
	Sub-Total					
05.1.01.2	**Furniture for DC** *[add as many rows)* *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
05.1.01.3	**Security and Environmental Monitoring Solution for DC** *[add as many rows)* *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
05.1.01.4	**Power, Cooling and Lighting for DC** *[add as many rows)* *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
	Total Cost					

Note 1: EXW means Ex-works; Ex-factory; Ex-warehouse; Ex-show-room, or off-the-shelf as applicable
Note 2: Unit Price EXW shall include all custom duties and taxes as specified in ITT Sub-Clause 20.5(a)
Note 3: Price for inland transportation shall include insurance and other costs as specified in ITT Sub-Clause 20.5(c)
Note 4: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____Signature of Tenderer _____ Date _____

05.1.02: Data Recovery Centre (DRC) : Price of Related Goods, Design and Civil Work with Interior Decoration of DRC (Including Modification of Beam and Existing Room If necessary)

1	2	3	4	5	6	07
Item N° .	Description Of Item	Unit Name	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Point of Delivery And Delivery Period Offered
				Note 1, Note 2 Note 3 and Note 4		
05.1.02.1	**Design and Civil Work with Interior Decoration of DRC** (Including Modification of Beam and Existing Room If necessary)					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*		*Offered by the tenderer*			
	Sub-Total					
05.1.02.2	**Furniture for DRC** *[add as many rows)* *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
05.1.02.3	**Security and Environmental Monitoring Solution** *[add as many rows)* *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
05.1.02.4	**Power, Cooling and Lighting** *[add as many rows)* *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
	Total Cost					

Note 1: EXW means Ex-works; Ex-factory; Ex-warehouse; Ex-show-room, or off-the-shelf as applicable
Note 2: Unit Price EXW shall include all custom duties and taxes as specified in ITT Sub-Clause 20.5(a)
Note 3: Price for inland transportation shall include insurance and other costs as specified in ITT Sub-Clause 20.5(c)
Note 4: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____Signature of Tenderer _____ Date _____

05.1.03:0 PRICE OF DATA COMMUNICATION INFRASTRUCTURE SOLUTION OF DC & DR TO BE INSTALLED AND DELIVERY SCHEDULE

1	2	3	4	5	6	07
Item N° .	Description Of Item	Unit Name	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Point of Delivery And Delivery Period Offered
				Note 1, Note 2 Note 3 and Note 4		
05.1.03.1	**Point To Point Dark Fiber Network Between DC & DRC**					
	[add as many rows] Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07	Meter	*Offered by the tenderer*			
	Sub-Total					
05.1.03.2	**Redundant Point To Point Dark Fiber Network Between DC & DRC**					
	[add as many rows] Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07	Meter	*Offered by the tenderer*			
	Sub-Total					

05.1.03.3: SERVICE CHARGE FOR POINT TO POINT DARK FIBER NETWORK BETWEEN DC & DRC .

1	2	3	8	9			10	11
Item N° .	Description Of Item	Monthly Charge	VAT and other taxes payable	Total Monthly Charge	Yearly Charge	VAT and other taxes payable	Total Yearly Charge	Total Charges for 6 Years
05.1.03.3.1	**Point To Point Dark Fiber Network Between DC & DRC**							
05.1.03.3.2	**Redundant Point To Point Dark Fiber Network Between DC & DRC**							

Name of Tenderer _____Signature of Tenderer _____ Date _____

05.1.04:0 PRICE OF REALED GOODS OF LAN INFRASTRUCTURE OF HEAD OFFICE TO BE INSTALLED AND DELIVERY SCHEDULE

1	2	3	4	5	6	07
Item N° .	Description Of Item	Unit Name	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Point of Delivery And Delivery Period Offered
				Note 1, Note 2 Note 3 and Note 4		
05.1.04.0	**LAN INFRASTRUCTURE OF HEAD OFFICE**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*		*Offered by the tenderer*			
	Sub-Total					

Name of Tenderer _____Signature of Tenderer _____ Date _____

05.1.05: PRICE OF REQUIRED RELATED GOODS (HARDWARE) FOR CORE BANKING SOLUTION AT DATA CENTER (DC) TO BE SUPPLIED AND DELIVERY SCHEDULE

1	2	3	4	5	6	07
Item N° .	Description Of Item	Unit Name	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Point of Delivery and Delivery Period Offered
				Note 1, Note 2 Note 3 and Note 4		
05.1.05.1	**Development and Testing Environment**					
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07		*Offered by the tenderer*			
	Sub-Total					
05.1.05.02	**Live/Production Environment**					
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.					
	Sub-Total					
05.1.05.03	**Storage Area Network (SAN)**					
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.					
	Sub-Total					
05.1.05.04	**Network Devices**					
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.					
	Sub-Total					
05.1.05.05	**Hardware for Office Automation at Data**					
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in					
	Sub-Total					
	Total Cost					

Note 1: EXW means Ex-works; Ex-factory; Ex-warehouse; Ex-show-room, or off-the-shelf as applicable
Note 2: Unit Price EXW shall include all custom duties and taxes as specified in ITT Sub-Clause 20.5(a)
Note 3: Price for inland transportation shall include insurance and other costs as specified in ITT Sub-Clause 20.5(c)
Note 4: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____Signature of Tenderer _____ Date _____

05.1.06: PRICE OF REQUIRED RELATED GOODS (HARDWARE) FOR CORE BANKING SOLUTION AT DATA RECOVERY CENTER (DRC) TO BE SUPPLIED AND DELIVERY SCHEDULE

1	2	3	4	5	6	07
Item N° .	Description Of Item	Unit Name	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Point of Delivery And Delivery Period Offered
				Note 1, Note 2 Note 3 and Note 4		
05.1.06.1	**Live/Production Environment**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
05.1.06.2	**Storage Area Network (SAN)**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
05.1.06.3	**Network Devices**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
05.1.06.4	**Hardware for Office Automation at DRC**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
	Total Cost					

Note 1: EXW means Ex-works; Ex-factory; Ex-warehouse; Ex-show-room, or off-the-shelf as applicable
Note 2: Unit Price EXW shall include all custom duties and taxes as specified in ITT Sub-Clause 20.5(a)
Note 3: Price for inland transportation shall include insurance and other costs as specified in ITT Sub-Clause 20.5(c)
Note 4: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____Signature of Tenderer _____ Date _____

05.1.07: PRICE OF REQUIRED RELATED GOODS (HARDWARE) FOR CORE BANKING SOLUTION AT PILOT BRANCHES AND CONTROL OFFICES TO BE SUPPLIED AND DELIVERY SCHEDULE

1	2	3	4	5	6	07
Item N° .	Description Of Item	Unit Name	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Point of Delivery And Delivery Period Offered
				Note 1, Note 2 Note 3 and Note 4		
05.1.07.1	**Hardware for Pilot Branches**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
	Total Cost					

Note 1: EXW means Ex-works; Ex-factory; Ex-warehouse; Ex-show-room, or off-the-shelf as applicable
Note 2: Unit Price EXW shall include all custom duties and taxes as specified in ITT Sub-Clause 20.5(a)
Note 3: Price for inland transportation shall include insurance and other costs as specified in ITT Sub-Clause 20.5(c)
Note 4: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____Signature of Tenderer _____ Date _____

05.1.08: PRICE OF REQUIRED RELATED GOODS FOR RDBMS. OS AND OTHER RELATED SOFTWARE FOR CORE BANKING SOLUTION FOR DC, DRC AND PILOT BRANCHES INCLUDING PROJECTED REST BRANCHES OF RBL TO BE SUPPLIED AND DELIVERY SCHEDULE

1	2	3	4	5	6	07
Item N° .	Description Of Item	Unit Name	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Point of Delivery And Delivery Period Offered
				Note 1, Note 2 Note 3 and Note 4		
05.1.08.1	RDBMS. OS and other Related Software for Core Banking and other Solution to comply Current Business Dimension & Future Projection of Rupali Bank Ltd defined in Table-01 Page-08.					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
	Total Cost					

Note 1: EXW means Ex-works; Ex-factory; Ex-warehouse; Ex-show-room, or off-the-shelf as applicable
Note 2: Unit Price EXW shall include all custom duties and taxes as specified in ITT Sub-Clause 20.5(a)
Note 3: Price for inland transportation shall include insurance and other costs as specified in ITT Sub-Clause 20.5(c)
Note 4: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____Signature of Tenderer _____ Date _____

05.1.09: PRICE OF REQUIRED RELATED GOODS FOR CORE BANKING SOLUTION (CBS) FOR RUPALI BANK LTD TO BE SUPPLIED AND DELIVERY SCHEDULE

1	2	3	4	5	6	07
Item N° .	Description Of Item	Unit Name	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Point of Delivery And Delivery Period Offered
				Note 1, Note 2 Note 3 and Note 4		
05.1.09.01	**1st phase:** Supply, Install and customize of CBS according to technical specification as specified in section-07 to comply Current **Business Dimension & Future Projection** of Rupali Bank Ltd defined in Table-01 Page-08.	lot	1			
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
05.1.09.02	**1st phase:** Data Migration, Implementation and Training of CBS at 55 pilot branches, 3 Divisions and having facility to access from one Zonal Office.	Branches & Control Offic	55 +03+01			
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
05.1.09.03	**2nd phase :** Data migration, implementation and Training of CBS at rest 437 branches and facility to access from 34 Zonal/Control offices on trun-key basis.	Branches & Control Office	437 + 34			
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
05.1.09.04	**2nd phase :** Integration and implementation of 208 mini branches as when as required by the bank	Branches	208			
	Total Cost					

Note 1: EXW means Ex-works; Ex-factory; Ex-warehouse; Ex-show-room, or off-the-shelf as applicable
Note 2: Unit Price EXW shall include all custom duties and taxes as specified in ITT Sub-Clause 20.5(a)
Note 3: Price for inland transportation shall include insurance and other costs as specified in ITT Sub-Clause 20.5(c)
Note 4: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____Signature of Tenderer _____ Date _____

05.1.10: PRICE OF CAPACITY BUILDING OF RUPALI BANK LTD.

1	2	3	4	5	6	07
Item N° .	Description Of Item	Course Name	No. of Participant per course	Per Course cost	Total Cosprice (col. 4 × 5)	Training Location and Training Period
				Note 1, Note 2 Note 3 and Note 4		
05.1.10.1	**1st phase: Core Team for Training & Technology Transfer**		100			
	[add as many rows) *For Each Course Name with detail information as per Schedule of requirement in section-06 and technical Specification in section-07.*					
05.1.10.2	**1st phase: Implementation and Operation Team for Pilot Project.**		130			
	[add as many rows) *For Each Course Name with detail information as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
05.1.10.3	**2nd phase :Support Team for Division and Control Offices**.		70			
	[add as many rows) *For Each Course Name with detail information as per Schedule of requirement in section-06 and technical Specification in section-07.*					
05.1.10.4	**2nd phase :Implementation and Operation Team for Branches**		1278			
	[add as many rows) *For Each Course Name with detail information as per Schedule of requirement in section-06 and technical Specification in section-07.*					
	Sub-Total					
	Total Cost					

Note 1: Trainer Honorium, Training Material, Recreation and Transport cost shall be included in the cost.
Note 2: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____Signature of Tenderer _____ Date _____

05.1.11: PRICE OF REQUIRED RELATED GOODS FOR IP TELEPHONY AND IP VIDEO TELEPHONY SYSTEM.

1	2	3	4	5	6	07
Item N° .	Description Of Item	Unit Name	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Point of Delivery And Delivery Period Offered
				Note 1, Note 2 Note 3 and Note 4		
05.1.11.1	**1St Phase : IP TELEPHONY AND IP VIDEO TELEPHONY SYSTEM**	set	01		DC+DRC	
	Sub-Tot					
05.1.11.2	**1nd Phase : IP Telephone unit of Executive Phone**	set	214		Head Office Division and Pilot location	36 month from the date contract agreement
	[add as many rows) For Each Item as per Schedule of require					
	1nd Phase : IP Telephone unit of Basic phone	set	371			
	For Each Item as per Schedule of requirement in section-06 and technical Specification in section-07.					
	1nd Phase : IP Telephone unit of Consol for 3 Operator	set	01		Help centre	
	For Each Item as per Schedule of requirement in section-06 and technical Specification in section-07.					
	Sub-Total					
05.1.11.3	**2nd Phase : IP Telephone unit of Executive phone**	set	485		Branches and Control Offices	36 month from the date contract agreement
	For Each Item as per Schedule of requirement in section-06 and technical Specification in section-07.					
	2nd Phase : IP Telephone unit of Basic phone	set	709			
	For Each Item as per Schedule of requirement in section-06 and technical Specification in section-07.					
	Sub-Total					
	Total Cost					

Note 1: EXW means Ex-works; Ex-factory; Ex-warehouse; Ex-show-room, or off-the-shelf as applicable
Note 2: Unit Price EXW shall include all custom duties and taxes as specified in ITT Sub-Clause 20.5(a)
Note 3: Price for inland transportation shall include insurance and other costs as specified in ITT Sub-Clause 20.5(c)
Note 4: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____Signature of Tenderer _____ Date _____

Price Schedule for Related Services/Maintenance (Form G-2B)

Invitation for Tender No: Date
Tender Package No:

05.2.01: DATA CENTER (DC) : PRICE OF MAINTENANCE SERVICES AFTER THREE YEARS WARRANTY PERIOD.

1	2	3	4	5	6	7	8	9	10	11	12
Item N° .	Description Of Related Service	Unit of Supply	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Warranty			Maintenance		
		Note 1	Note 1			1st year	2nd year	3rd year	4th year	5th year	6th year
05.2.01.1	**Design and Civil Work with Interior Decoration of DC** (Including Modification of Beam and Existing Room If necessary)										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07										
	Sub-Total										
05.2.01.2	**Furniture for DC**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
05.2.01.3	**Security and Environmental Monitoring Solution for DC**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
05.2.01.4	**Power, Cooling and Lighting for DC**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
	Total										

Note 1: The Tenderer will complete these columns as appropriate following the details specified in Section 6: Schedule of Requirements or the offered Items as per requirement.
Note 2: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.2.02: DATA RECOVERY CENTER (DRC): PRICE OF MAINTENANCE SERVICES AFTER THREE YEARS WARRANTY PERIOD.

1	2	3	4	5	6	7	8	9	10	11	12
Item N° .	Description Of Related Service	Unit of Supply	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Warranty			Maintenance		
		Note 1	Note 1			1st year	2nd year	3rd year	4th year	5th year	6th year
05.2.02.1	**Design and Civil Work with Interior Decoration of DC** (Including Modification of Beam and Existing Room If necessary)										
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*										
	Sub-Total										
05.2.02.2	**Furniture for DC**										
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*										
	Sub-Total										
05.2.02.3	**Security and Environmental Monitoring Solution for DC**										
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*										
	Sub-Total										
05.2.02.4	**Power, Cooling and Lighting for DC**										
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*										
	Sub-Total										
	Total										

Note 1: The Tenderer will complete these columns as appropriate following the details specified in Section 6: Schedule of Requirements or the offered Items as per requirement.
Note 2: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.2.03.0 LAN INFRASTRUCTURE OF HEAD OFFICE: PRICE OF MAINTENANCE SERVICES AFTER THREE YEARS WARRANTY PERIOD.

1	2	3	4	5	6	7	8	9	10	11	12
Item No .	Description Of Related Service	Unit of Supply	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Warranty			Maintenance		
		Note 1	Note 1			1st year	2nd year	3rd year	4th year	5th year	6th year
05.2.03.1	**LAN INFRASTRUCTURE OF HEAD OFFICE**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07										
	Sub-Total										
	Total										

Note 1: The Tenderer will complete these columns as appropriate following the details specified in Section 6: Schedule of Requirements or the offered Items as per requirement.
Note 2: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.2.04: HARDWARE FOR CORE BANKING SOLUTION AT DATA CENTER (DC): PRICE OF MAINTENANCE SERVICES AFTER THREE YEARS WARRANTY PERIOD.

1	2	3	4	5	6	7	8	9	10	11	12
Item N° .	Description Of Related Service	Unit of Supply	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Warranty			Maintenance		
		Note 1	Note 1			1st year	2nd year	3rd year	4th year	5th year	6th year
05.2.04.1	**Development and Testing Environment**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07										
	Sub-Total										
05.2.04.2	**Live/Production Environment**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
05.2.04.3	**Storage Area Network (SAN)**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
05.2.04.4	**Network Devices**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
05.2.04.5	**Hardware for Office Automation at DC**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
	Total										

Note 1: The Tenderer will complete these columns as appropriate following the details specified in Section 6: Schedule of Requirements or the offered Items as per requirement.
Note 2: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.2.05: HARDWARE FOR CORE BANKING SOLUTION AT DATA RECOVERY CENTER (DRC): PRICE OF MAINTENANCE SERVICES AFTER THREE YEARS WARRANTY PERIOD.

1	2	3	4	5	6	7	8	9	10	11	12
Item No .	Description Of Related Service	Unit of Supply	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Warranty			Maintenance		
		Note 1	Note 1			1st year	2nd year	3rd year	4th year	5th year	6th year
05.2.05.1	**Live/Production Environment**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
05.2.05.2	**Storage Area Network (SAN)**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
05.2.05.3	**Network Devices**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
05.2.05.4	**Hardware for Office Automation at DRC**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
	Total										

Note 1: The Tenderer will complete these columns as appropriate following the details specified in Section 6: Schedule of Requirements or the offered Items as per requirement.
Note 2: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.2.06: HARDWARE FOR CORE BANKING SOLUTION AT PILOT BRANCHES AND CONTROL OFFICES: PRICE OF MAINTENANCE SERVICES AFTER THREE YEARS WARRANTY PERIOD.

1	2	3	4	5	6	7	8	9	10	11	12
Item N° .	Description Of Related Service	Unit of Supply	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Warranty			Maintenance		
		Note 1	Note 1			1st year	2nd year	3rd year	4th year	5th year	6th year
05.2.06.0	**PILOT BRANCHES AND CONTROL OFFICES**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07										
	Sub-Total										
	Total										

Note 1: The Tenderer will complete these columns as appropriate following the details specified in Section 6: Schedule of Requirements or the offered Items as per requirement.
Note 2: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.2.07: RDBMS. OS AND OTHER RELATED SOFTWARE FOR CORE BANKING SOLUTION FOR DC, DRC AND PILOT BRANCHES INCLUDING PROJECTED REST BRANCHES AND CONTROL OFFICES OF RBL: MAINTENANCE SERVICES AFTER THREE YEARS WARRANTY PERIOD.

1	2	3	4	5	6	7	8	9	10	11	12
Item N° .	Description Of Related Service	Unit of Supply	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Warranty			Maintenance		
		Note 1	Note 1			1st year	2nd year	3rd year	4th year	5th year	6th year
05.2.07.0	**Maintenance of** RDBMS. OS and other Related Software for Core Banking and other Solution to comply Current Business Dimension & Future Projection of Rupali Bank Ltd defined in Table-01 Page-08. Including free Update version and edition.										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07										
	Sub-Total										
	Total										

Note 1: The Tenderer will complete these columns as appropriate following the details specified in Section 6: Schedule of Requirements or the offered Items as per requirement.
Note 2: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.2.08: CORE BANKING SOLUTION FOR DC, DRC AND PILOT BRANCHES INCLUDING PROJECTED REST BRANCHES AND CONTROL OFFICES OF RBL: MAINTENANCE SERVICES AFTER THREE YEARS WARRANTY PERIOD.

1	2	3	4	5	6	7	8	9	10	11	12
Item N° .	Description Of Related Service	Unit of Supply	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Warranty			Maintenance		
		Note 1	Note 1			1st year	2nd year	3rd year	4th year	5th year	6th year
05.2.08.1	**Maintenance cost for** CBS according to technical specification and **Business Projection** at DC and DRC **including free update Edition and Version of software.**	lot	1								
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
05.2.08.2	**Maintenance Cost for 1st phase branches Division and Controal offices:** 55 pilot branches, 3 Divisions and having facility to access from one Zonal Office.	Branches & Control Offic	55 +03+01								
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
05.2.08.3	**Maintenance Cost for 2nd phase branches and control offices:** 437 branches and facility to access from 34 Zonal/Control offices	Branches & Control Office	437 + 34								
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-Total										
05.2.08.4	**Maintenance Cost for 2nd phase mini branches:** 208 mini branches	Branches	208								
	Grand Total										

Note 1: The Tenderer will complete these columns as appropriate following the details specified in Section 6: Schedule of Requirements or the offered Items as per requirement.
Note 2: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.2.09: IP TELEPHONY AND IP VIDEO TELEPHONY SYSTEM: MAINTENANCE SERVICES AFTER THREE YEARS WARRANTY PERIOD.

1	2	3	4	5	6	7	8	9	10	11	12
Item No .	Description Of Related Service	Unit of Supply	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Warranty			Maintenance		
		Note 1	Note 1			1st year	2nd year	3rd year	4th year	5th year	6th year
05.2.09.1	**1st phase : IP TELEPHONY AND IP VIDEO TELEPHONY SYSTEM**										
	[add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub total										
05.2.09.2	**1st phase : IP TELEPHONY unit of Executive and base Phone**										
	add as many rows) Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.										
	Sub-total										
05.2.09.3	**2nd phase : IP TELEPHONY unit of Executive and base Phone**										
	Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07										
	Sub total										
	Grand Total										

Note 1: The Tenderer will complete these columns as appropriate following the details specified in Section 6: Schedule of Requirements or the offered Items as per requirement.
Note 2: VAT and any other taxes payable in Bangladesh shall be included here as specified in ITT Sub-Clause 20.5(b)

Name of Tenderer _____ Signature of Tenderer _____ Date _____

Specifications Submission Sheet (Form G-3)

Invitation for Tender No: Date
Tender Package No:

The Tenderer must submit the detail technical specification of each offered Item in the following format according to the schedule of requirement specified in section-06 and technical Specified in section-07.

05.3.01: DATA CENTER (DC) :

Sl. No.	Required Item and Specification defined by the Bank	Qty	Tenders's Offered Item with Specification	Brand To be mentioned	Model To be mentioned	I. Country of Origin ii. Country of Assembly To be mentioned
05.03.01.1	**Design and Civil Work with Interior Decoration of DC** (Including Modification of Beam and Existing Room If necessary)					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*					
05.03.01.2	**Furniture for DC**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
05.03.01.3	**Security and Environmental Monitoring Solution for DC**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
05.03.01.4	**Power, Cooling and Lighting for DC**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.3.02: DATA RECOVERY CENTER (DRC) :

Sl. No.	Required Item and Specification defined by the Bank	Qty	Tenders's Offered Item with Specification	Brand To be mentioned	Model To be mentioned	I. Country of Origin ii. Country of Assembly To be mentioned
05.3.02.1	**Design and Civil Work with Interior Decoration of DC** (Including Modification of Beam and Existing Room If necessary)					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*					
05.3.02.2	**Furniture for DC**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
05.3.02.3	**Security and Environmental Monitoring Solution for DC**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
05.3.02.4	**Power, Cooling and Lighting for DC**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.3.03:0 DATA COMMUNICATION INFRASTRUCTURE SOLUTION OF DC & DRC.

Sl. No.	Required Item and Specification defined by the Bank	Qty	Tenders's Offered Item with Specification	Brand To be mentioned	Model To be mentioned	I. Country of Origin ii. Country of Assembly To be mentioned
05.3.03.1	**Point To Point Dark Fiber Network Between DC & DRC**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*					
05.3.03.2	**Redundant Point To Point Dark Fiber Network Between DC & DRC**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*					

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.3.04.0 LAN INFRASTRUCTURE OF HEAD OFFICE:

Sl. No.	Required Item and Specification defined by the Bank	Qty	Tenders's Offered Item with Specification	Brand To be mentioned	Model To be mentioned	I. Country of Origin ii. Country of Assembly To be mentioned
05.3.04.1	**LAN INFRASTRUCTURE OF HEAD OFFICE:**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*					

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.3.05.0 HARDWARE FOR CORE BANKING SOLUTION AT DATA CENTER (DC)

Sl. No.	Required Item and Specification defined by the Bank	Qty	Tenders's Offered Item with Specification	Brand To be mentioned	Model To be mentioned	I. Country of Origin ii. Country of Assembly To be mentioned
05.3.05.1	**Development and Testing Environment**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*					
05.3.05.2	**Live/Production Environment**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
05.3.05.3	**Storage Area Network (SAN)**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
05.3.05.4	**Network Devices**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
05.3.05.5	**Hardware of Office Automation at DC**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.3.06.0 HARDWARE FOR CORE BANKING SOLUTION AT DATA RECOVERY CENTER (DRC)

Sl. No.	Required Item and Specification defined by the Bank	Qty	Tenders's Offered Item with Specification	Brand To be mentioned	Model To be mentioned	I. Country of Origin ii. Country of Assembly To be mentioned
05.3.06.1	**Live Environment**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
05.3.06.2	**Storage Area Network (SAN)**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
05.3.06.3	**Network Devices**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					
05.3.06.4	**Hardware for Office Automation at DRC**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07.*					

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.3.07.0 HARDWARE FOR CORE BANKING SOLUTION AT PILOT BRANCHES AND CONTROL OFFICES

Sl. No.	Required Item and Specification defined by the Bank	Tenderer 's offered Qty	Tenders's Offered Item with Specification	Brand To be mentioned	Model To be mentioned	I. Country of Origin ii. Country of Assembly To be mentioned
05.3.06.1	**HARDWARE FOR PILOT BRANCHES AND CONTROL OFFICES**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*					

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.3.08.0 RDBMS. OS AND OTHER RELATED SOFTWARE FOR CORE BANKING SOLUTION FOR DC, DRC AND PILOT BRANCHES INCLUDING PROJECTED REST BRANCHES AND CONTROL OFFICES OF RBL.

Sl. No.	Required Item and Specification defined by the Bank	Tenderer 's offered Qty	Tenders's Offered Item with Specification	Brand To be mentioned	Model To be mentioned	I. Country of Origin ii. Country of Assembly To be mentioned
05.3.08.1	Supply, Installation and customization of RDBMS. OS and other Related Software for Core Banking and other Solution to comply Current Business Dimension & Future Projection of Rupali Bank Ltd defined in Table-01 Page-08. Including free Update version and edition.					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*					

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.3.09. CORE BANKING SOLUTION (CBS) FOR RUPALI BANK

Sl. No.	Required Item and Specification defined by the Bank	Tenderer 's offered Qty	Tenders's Offered Item with Specification	Brand To be mentioned	Model To be mentioned	I. Country of Origin ii. Country of Assembly To be mentioned
05.3.09.1	Supply, Install and customize of CBS according to technical specification as specified in section-07 to comply Current **Business Dimension & Future Projection** of Rupali Bank Ltd defined in Table-01 Page-08.					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*					

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.3.10.0 CAPACITY BUILDING OF RUPALI BANK LTD.

1	2	3	4	6	07
Item N°.	**Description Of Item**	**Course Name**	**No. of Participant per course**	**Duration**	**Training Location**
05.3.10.1	**1st phase: Core Team for Training & Technology Transfer**		100		
	[add as many rows) *For Each Course Name with detail information as per Schedule of requirement in section-06 and technical Specification in section-07.*				
05.3.10.2	**1st phase: Implementation and Operation Team for Pilot Project.**		130		
	[add as many rows) *For Each Course Name with detail information as per Schedule of requirement in section-06 and technical Specification in section-07.*				
05.3.10.3	**2nd phase :Support Team for Control Offices**.		70		
	[add as many rows) *For Each Course Name with detail information as per Schedule of requirement in section-06 and technical Specification in section-07.*				
05.3.10.4	**2nd phase :Implementation and Operation Team for Branches**		1278		
	[add as many rows) *For Each Course Name with detail information as per Schedule of requirement in section-06 and technical Specification in section-07.*				

Name of Tenderer _____ Signature of Tenderer _____ Date _____

05.3.11.0 IP TELEPHONY AND IP VIDEO TELEPHONY SYSTEM

Sl. No.	Required Item and Specification defined by the Bank	Tenderer offered Qty	Tenders's Offered Item with Specification	Brand To be mentioned	Model To be mentioned	I. Country of Origin ii. Country of Assembly To be mentioned
05.3.11.1	**IP TELEPHONY AND IP VIDEO TELEPHONY SYSTEM**					
	[add as many rows) *Each Item Name and Specification as per Schedule of requirement in section-06 and technical Specification in section-07*					

Name of Tenderer _____ Signature of Tenderer _____ Date _____

Tenderer Information Sheet (Form G-4)

Notes on Tenderer Information Sheet

This note is for information only to assist the procuring entity in the completion of the Form when preparing the Tender Document, but this note should not be included in the issued Tender Document.

The information to be filled in by Tenderers in the following pages will be used for purposes of verification of eligibility and qualification of the Tenderer as provided for in relevant Clauses of the Instructions to Tenderers.

Invitation for Tender No: Date
Tender Package No:

A. Individual Tenderers

1. General Information of the Tenderer		
1.1	Tenderer's Legal Name	
1.2	Tenderer's legal address in Country of Registration	
1.3	Tenderer's legal status	
	Proprietorship	
	Partnership (Registered under the Partnership Act, 1932)	
	Limited Liability Concern (Registered under the Companies Act, 1913)	
	Others	
1.4	Tenderer's Year of Registration	
1.5	Tenderer's business status	
	Manufacturer/Developer	
	Local Agent/Distributor of a foreign Manufacturer	
	Stockist	
	Others	
1.6	Tenderer's Authorised Representative Information	
	Name	
	Address	
	Telephone / Fax Numbers	
	e-mail address	
1.7	Tenderer's Value Added Tax Registration Number	
1.8	Tenderer's Income Tax Identification Number (TIN)	

1.9	Tenderer to attach copies of the following documentation:	(a) Articles of Incorporation or Registration of firm. (b) Latest Income Tax Clearance Certificate (c) Latest VAT Registration Certificate (d) Original letter naming the person authorised to sign on behalf of the Tenderer
2. Qualification Information of the Tenderer		
2.1	Number of years of overall experience of the Tenderer in the supply of goods and related services:	
2.2	Number of years of experience of the Tenderer in the supply of similar goods and related services:	
2.3	Total annual monetary value of similar goods supplied in each of the last five years. [	[write "Not applicable", if this information is not asked in ITT 13.1(a)]
2.4	Available liquid assets (Working Capital or Credit facility or Asset Value)	[write "Not applicable", if this information is not asked in ITT 13.1(b)]
2.5	Details of production capacity/ equipment available:	[write "Not applicable", if this information is not asked in ITT 12.1(c)]
2.6	Major supplies of similar type of Goods over the last five years. Also list details of supplies of similar type of Goods under way or committed, including expected delivery date.	
3. Financial Information of the Tenderer		
3.1	Financial reports or balance sheets or profit and loss statements or auditors' reports or bank references with documents or a combination of these demonstrating availability of liquid assets. List below and attach copies.	
3.2	Name, address, and telephone, telex, and facsimile numbers of banks that may provide references if contacted by the Employer	
3.3	Information on litigation in which the Tenderer is, or has been involved:	
	(a) Any case within the past five years	
	Cause of Dispute	Result of Settlement and amount involved
	(b) Current cases in this financial year	
	Cause of Dispute	Current Position of Case
Note: The above represents the minimum requirements. These may be added to buy the Purchaser on a case-by-case basis, as necessary.		

B. Individual Members of a Joint Venture

4.1	Each Member of a JVCA shall provide all the information requested in the form above, Sections 1-3.
4.2	Attach a power of attorney for each of the authorising signatories of the Tender on behalf of the JVCA.
4.3	Attach the Agreement among all Members of the JVCA (and which is legally binding on all Members), which shows that: (a) All Members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms; (b) one of the Members will be nominated as being in charge, authorised to incur liabilities, and receive instructions for and on behalf of any and all Members of the joint venture; and (c) the execution of the entire Contract, including payment, shall be done exclusively with the Member in charge
Note: The above represents the minimum requirements. These may be added to buy the Purchaser on a case-by-case basis, as necessary.	

Manufacturer's Authorisation Letter (Form G - 5)

[This letter of authorisation should be on the letterhead of the manufacturer and should be signed by the person with the proper authority to sign documents that are binding on the manufacturer]

Invitation for Tender No: Date:

Tender Package No:

To:

Name and address of Purchaser]

WHEREAS, we *[name and address of manufacturer]* are reputable manufacturers having factories at *[list of places of factories]*.

THEREFORE, we do hereby:

1. Authorise *[name of Tenderer]* to submit a Tender in response to the Invitation for Tenders indicated above, the purpose of which is to provide the following Goods, *[description of goods]*, manufactured by us, and to subsequently sign the Contract for the supply of such Goods; and,

2. Extend our full guarantee and warranty in accordance with GCC Clause 32, with respect to the Goods offered in the Tender.

Signed

In the capacity of:

Duly authorised to sign the authorisation for and on behalf of

[name of manufacturer]

Date:

Tender Security (Form G – 6*)*

[this is the format for the Tender Security to be submitted by the tenderer in accordance with ITT Clause 27]

Invitation for Tender No: Date:

Tender Package No:

To:

[Name and address of Purchaser]

We are submitting the tender security inform of Pay Order/ SDR as per term and condition of the tender schedule

Pay Order/SDR No.	
Issuing Bank	
Issuing Branch	
Issuing Date	
Amount	

Signature Signature

Notification of Award (Form G - 7)

Contract No: Date:
To:

This is to notify you that your Tender dated *[insert date]* for the supply of goods and related services for *[name of project/contract]* for the Contract Price of Taka *[amount in figures and in words]*, as corrected and modified in accordance with the Instructions to Tenderers is hereby accepted by *[name of Procuring Entity]*.

You are requested to proceed with the supply of the goods and the related services and note that this Notification of Award shall constitute the formation of a Contract, which shall only become binding upon you furnishing a Performance Security within 14 days, in accordance with ITT Clause 50, and the signing of the Contract Agreement within 21 days, in accordance with ITT Clause 51.

We attach the Contract Agreement and Contract Documents for you perusal and signature.

Signed

Duly authorised to sign for and on behalf of *[name of Procuring Entity*

Date:

Contract Agreement (Form G - 8)

THIS AGREEMENT made the *[day]* day of *[month] [year]* between *[name and address of Purchaser]* (hereinafter called "the Purchaser") of the one part and *[name and address of Supplier]* (hereinafter called "the Supplier") of the other part:

WHEREAS the Purchaser invited Tenders for certain goods and related services, viz, *[brief description of goods and related services]* and has accepted a Tender by the Supplier for the supply of those goods and related services in the sum of Taka *[Contract Price in figures and in words]* (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the General Conditions of Contract hereafter referred to.
2. The documents forming the Contract shall be interpreted in the following order of priority:
   - (a) the signed Form of Contract Agreement;
   - (b) the letter of Notification of Award
   - (c) the completed Tender Submission Sheet as submitted by the Tenderer;
   - (d) the completed Price Schedules as submitted by the Tenderer;
   - (e) the Particular Conditions of Contract;
   - (f) the General Conditions of Contract;
   - (g) the Schedule of Requirements;
   - (h) the Technical Specifications;
   - (i) the Drawings, and;
   - (j) any other document listed in the PCC as forming part of the Contract.
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the goods and related services and to remedy any defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the goods and related services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Bangladesh on the day, month and year first written above.

For the Purchaser:	For the Supplier:
Signature	
Print Name	
Title	
In the presence of Name	
Address	

Bank Guarantee for Performance Security (Form G – 9)

[this is the format for the Performance Security to be issued by a scheduled bank of Bangladesh in accordance with ITT Clause 50]

Contract No: Date:

To:

[Name and address of Purchaser]

PERFORMANCE GUARANTEE No:

We have been informed that *[name of supplier]* (hereinafter called "the Supplier") has undertaken, pursuant to Contract No *[reference number of Contract]* dated *[date of Contract]* (hereinafter called "the Contract") for the supply of *[description of goods and related services]* under the Contract.

Furthermore, we understand that, according to your conditions, Contracts must be supported by a performance guarantee.

At the request of the Supplier, we *[name of bank]* hereby irrevocably undertake to pay you, without cavil or argument, any sum or sums not exceeding in total an amount of Tk *[insert amount in figures and in words]* upon receipt by us of your first written demand accompanied by a written statement that the Supplier is in breach of its obligation(s) under the Contract conditions, without you needing to prove or show grounds or reasons for your demand of the sum specified therein.

This guarantee is valid until *[date of validity of guarantee]*, consequently, we must receive at the above-mentioned office any demand for payment under this guarantee on or before that date.

Signature Signature

Undertaking Letter (Form G – 10)

[This is the format for the Undertaking Letter in accordance with Section 1 Clause 24..5]

Contract No: Date:

To:

[Name and address of Purchaser]

With reference to the Contract no. _____ , we hereby undertake that we will share the Source

Code of the Core Banking Solution either directly or based on the ESCROW Agreement defined by the Bank, once we successfully implement the project.

Signed
In the capacity of:
Duly authorized to sign the authorization for and on behalf of

[Name of manufacturer]
Date

Section 6. Schedule of Requirements

A. List of Goods and Delivery Schedule

(*Following Items and Quantity are expected by the bank for the project. The Tenderer may proposed any other Items which is deem necessary for their solution or increase/decrease quantity of items if necessary for their proposed solution considering better performance, security, reliability and scalability of the project. The Tenderer shall Quote each item prices in Form G-2 as per point of supply and delivery schedule given below.)*

1	2	3	4	5	6
Item No.	**Description of Item**	**Unit of Supply**	**Quantity of Supply**	**Point of Supply**	**Delivery Schedule in months**
06.01.0	**DATA CENTER (DC)**				
06.01.01	**Design and Civil Work with Interior Decoration of DC** (including modification of Beam and existing Room if necessary)				
	Server Room (Approx. 423 sft)	Room	01	Head Office 3rd floor. (Present Floor Layout is enclosed in the schedule in Annexure-01)	6 mth from the date of Signing of Contract.
	Communication Room (Approx. 130 sft)	Room	01		
	Power, Fire Fighting and UPS Room (Approx.279sft)	Room	01		
	Network Operation Centre (NOC) (Approx. 172 sft)	Room	01		
	DC Operation Centre (DOC) (Approx.139sft)	Room	01		
	System Monitoring Centre (SMC) (Approx.772 sft)	Room	01		
	Testing Room (Approx 159.75 sft)	Room	01		
	Archiving Room (Approx. 145 sft)	Room	01		
	Waiting and Recreation Room (Approx 138 sft)	Room	01		
	Project Manager Room (Approx.188 sft)	Room	01		
	Raised floor for Server and communication room (Approx.553 sft)	Room	01		
	Staging Room	Room	01		
	Cable Ladder (structure Cabling)	feet	as required		
	Emergency Exit Stair	Feet	-do-		
	Substation Space (As Estimated.)	Room	01	Head Office Ground. Floor	-do-
	Generator Space (As Estimated.)	Room	01		
06.01.02	**Furniture for DC**				
a.	Computer Table for NOC(6) , DOC (8) ,SMC (24), Testing Room(4), Staging Room(1)	unit	43	Head Office 3rd floor.	6 mth from the date of Signing
b.	Secretariat Table for Project Manager	unit	01		
c.	PM Chair	Unit	01		
d.	Revolving Chair	unit	46		
e.	Long Tea Table for Waiting and Recreation room (size 6'x2.5')	unit	01		
f.	Sofa set for Waiting and Recreation room (size 6'x2.5')	unit	02		
g.	Reception Desk	unit	01		
h.	Two hours fire rated humidity & Magnetic control File cabinet, Min. 170 Litre	unit	01		
06.01.03	**Security and Environmental Monitoring Solution**				
a.	Gas/Fire prevention, detection and suppression system	set	01	Head Office 3rd floor.	6 mth from the date of Signing
b.	Water leak detection	set	01		
c.	Smoke Detection	set	01		
d.	Particle detection	set	01		
e.	Access control System	set	01		
f.	CCTV	set	01		
06.01.0	**Power, Cooling and Lighting System**			Head Office 3rd floor.	6 mth from the

a.	Substation	Set	01		date of Signing
b.	Generator	Set	02		
c.	UPS	Set	03		
d.	AVR	Set	01		
e.	Automatic Transfer Switch (ATS):	Set	As required		
f.	Transient Voltage Surge Suppression (TVSS)	Set	01		
g.	Surge protection for lighting arrester	Set	01		
h.	Earthling	Set	As required		
i.	Structure Cabling with power distribution	Set	As required		
j.	Lighting with Emergency Light	Unit	As required		
k.	Precision Air Cooler (PAC)	Set	04		
l.	Comfort Air Cooler (CAC)	set	2 ton: 06 set 1 ton: 05 set		
m.	De-Humidifier	set	01		
n.	Environment Monitoring System (EMS)	set	01		
o.	Wall display for NOC monitoring facility	set	01		
p.	Others item (if necessary)	set	As required		

02.0	**DATA Recovery CENTER (DRC)**				
06.02.01	**Design and Civil Work with Interior Decoration of DRC.** (including modification of Beam and existing Room if necessary)				
a.	Server Room (423 sft)	Room	01	Location and site for DRC will be confirmed at the time of award of contract	12 mth from the 4th month of the date of Signing.
b.	Communication Room (130 sft)	Room			
c.	Network Operation Centre (NOC) (172 sft)	Room			
d.	Power, Fire Fighting and UPS Room (100 sft)	Room	01		
e.	DRC Operation Centre (DOC) (139 sft)	Room	01		
f.	Archiving Room (145 sft)	Room	01		
g.	Raised Floor for Server Room (553 sft)	Room	01		
h.	Cable Ladder (structural Cabling)	set	As required		
i.	Substation Room (As Estimated.)	Room	01		
j.	Generator Room (As Estimated.)	Room	01		
06.02.02	**Furniture for DRC**				
a.	Computer Table for DRC	unit	04	-Do-	-Do-
b.	Revolving Chair	unit	04		
c.	Reception Desk	unit	01		
d.	Two hours fire rated humidity & Magnetic control File cabinet Min. 170 Litre	unit	01		
06.02.03	**Security and Environmental Monitoring Solution**				
a.	Fire Prevention, Detection and Suppression System with necessary Equipments	set	01	-Do-	-Do-
b.	Water leak detection	set	01		
c.	Smoke Detection	set	01		
d.	Particle detection	set	01		
e.	Access control System	set	01		
f.	CCTV	set	01		
06.02.04	**Power, Cooling and Lighting**			Location and site for DRC will be confirmed at the time of award of contract	12 mth from the 4th month of the date of Signing
a.	Substation	set	01		
b.	Generator	set	01		
c.	UPS	set	03		
d.	AVR	set	01		
e.	Automatic Transfer Switch (ATS):	set	As required		
f.	Transient Voltage Surge Suppression (TVSS)	set	01		
g.	Surge protection for lighting arrester	set	01		

h.	Earthling	set	As required		
i.	Structure Cabling with power distribution	set	As required		
j.	Lighting with Emergency Light	unit	04		
k.	Precision Air Cooler (PAC)	set	02		
l.	Comfort Air Cooler (CAC)	set	2 ton: 02 set 1 ton: 02 set		
m.	De-Humidifier	set	01		
n.	Wall display for NOC monitoring facility	set	01		
o.	Environment Monitoring System (EMS)	set	01		
p.	Others item (if necessary)	set	As required		

06.03.0	**DATA COMMUNICATION INFRASTRUCTURE SOLUTION**				
a.	Point To Point Dark Fiber Network Between DC & DRC	meter	As required	Min. 15 Kilometre from Head Office DC	12 mth from the 7th month of the date of Signing
b.	Redundant Point To Point Dark Fiber Network Between DC & DRC	meter			
06.04.0	**LAN Infrastructure Of Head Office**				
a.	Structure Cabling from DC to Each Floor Total Number of Floor 09(nine)	Meter	-do-	Head Office Building	24 mth from the 7th month of the date of Signing
b.	Wall Mounted RAC	Set	09		
c.	Manageable Switch (24 port)	Set	48 Port: 05 set 24 Port: 08 set		
d.	Network cabling with channel from each floor switches to end user PC (Total No. of PC : 400 as per **Annexure-4**)	Meter	As required		
e.	Power point, Face plate, connectors	Unit	As required		

06.05.0	**Hardware for Core Banking Solution at Data Center (DC)**				
06.05.01	**Development and Testing Environment**			Head Office 3rd floor.	9 mth from the date of Signing
a.	Application Server	Set	01		
b.	Database server	Set	01		
c.	Reporting Server	Set	01		
06.05.02	**Live/Production Environment**			Head Office 3rd floor.	9 mth from the date of Signing
a.	Application Server	Set	02		
b.	Database server	Set	02		
06.05.03	**Storage Area Network (SAN)**			Head Office 3rd floor.	9 mth from the date of Signing
a.	External Storage System	unit	01		
b.	Storage Area Network Switch	Unit	02		
c.	Backup Server	Unit	01		
d.	Tape Library with Software	Set	01		
e.	Tape Cartage	Pieces	210		
06.05.04	**Network Devices**			Head Office 3rd floor. (As per base design annexure-07)	9 mth from the date of Signing
a.	Core Router	Unit	02		
b.	DMZ/ Internet Router	Unit	02		
c.	Core Switch	Unit	02		
d.	Core Firewall	Set	02		
e.	Internet Router	Set	02		
f.	Internet Firewall with Content Security	Set	02		
g.	IPS for Data Center	Set	02		
h.	Server Farm and DMZ Switch	Set	04		
i.	Distribution Switch	Set	02		
j.	Load Balancer	Set	01		
k.	Rack with PDU and KVM	Set	10		

06.05.06	**Hardware for Office Automation at Data Center (DC)**				
	File Server	set	01	Head Office 3rd floor.	9 mth from the date of Signing
	Proxy Server	set	01		
	Active directory server	set	02		
	Web Server	set	01		
	Print Server	set	02		
	Mail Server (Total No of User : 2000, per user 1 GB)	set	02		
	Antivirus Server (Total No. of user 3000)	set	01		
	Network & Security Management server	set	01		
	Central Patch Management server	set	01		
	Backup Solution	set	01		
	Personal Computer for SMC(25), NOC(4), DOC(4), Testing(4), Staging(1) and Project Manager Room(1)	set	39		
	Laser Printer for project Manager Room	set	01		
	Line Printer	set	01		
	Flat Scanner	set	01		

06.06.00	**Hardware for Core Banking Solution at Data Recovery Center (DRC)**				
06.06.01	**Live/Production Environment**				
	Application Server	set	01	DRC	12 mth from the 4th month of the date of Signing.
	Database server	set	01		
06.06.02	**Storage Area Network (SAN)**				
	External Storage System	unit	01	DRC	12 mth from the 4th month of the date of Signing.
	Storage Area Network Switch	Unit	02		
06.06.03	**Network Devices**				
	Core Router	Unit	01	(As per base design annexure-07)	12 mth from the 4th month of the date of Signing.
	DMZ/ Internet Router	Unit	01		
	Core Switch	Unit	01		
	Core Firewall	Unit	01		
	Internet Router	Unit	01		
	Internet Firewall with Content Security	Unit	01		
	IPS for Data Recovery Center	Unit	01		
	Server Farm and DMZ Switch	Unit	04		
	Load Balancer	Unit	01		
	Rack with PDU and KVM	Unit	10		
06.06.04	**Hardware for Office Automation at DRC**				
	Print Server	set	01		12 mth from the 4th month of the date of Signing.
	Mail Server (Total No of User : 2000, per user 1 GB)	set	01		
	Antivirus Server (Total No. of user 3000)	set	01		
	Personal Computer for DOC	set	04		

06.07.00	**Hardware for Core Banking Solution at Pilot Branches**				
a.	Personal Computer with related O/s	Set	249	At Pilot branches, one zonal office, CAD, ID and Recovery Division at per	12 mth from the 4th month of the date of Signing.
b.	Dot Matrix Printer	set	59		
c.	Laser Printer	set	64		
d.	UPS	set	249		
e.	Scanner	set	56		
f.	Router	set	56		
g.	Manageable Switch	set	56		

h.	Wall mounted RACK	set	56	**Annexure-3**	
i.	LAN and Electric Line setup	set	56		
06.08.0	**RDBMS. OS and other Related Software for Core Banking Solution for DC and DRC**				
	Operating system (Licence Type and Copy)	Set	As proposed by the Tenderer	Head Office 3rd floor.	9 mth from the date of Signing
	RDBMS (Licence Type and Copy)	Set	-do-		
	Web server	Set	-do-		
	Data centre Management Software	Set	-do-		
	Enterprise Management Software	Set	-do-		
	Network Management Software	Set	-do-		
	Antivirus Software (Total license copy 3000) CAL/Copy				
	1st phase: As per annexure-4		1000 approx.	Head Office Division, Control Office, Pilot Branches, DC,DRC	12 month from the date of signing contract
	2nd phase : As per annexure-4		2000 Approx.	Rest Branches and control Offices	36 month from the date of signing contract
06.09.0	**Core Banking Solution (CBS) for Rupali Bank Ltd.**				
06.09.01	**1st phase:** Supply, Install and customize of CBS according to technical specification as specified in section-07 to comply Current **Business Dimension & Future Projection** of Rupali Bank Ltd defined in Table-01 Page-08.	lot	01	DC +DRC	12 month from the date of signing contract
06.09.02	**1st phase: phase:** Data Migration, Implementation and Training of CBS	Set	Branches - 55 Division: 03 Control Off :-1 **Total : 59**	Pilot locations defined in Annexure-03	12 month from the date of signing contract
06.09.03	**2nd phase :** Data migration, implementation and Training of CBS	-do-	Branches: 437 Control off: 34 **Total: 471**	Location of Branches, Division and Control are given in Annexure- 05	24 month from the date of completion 1st phase
06.09.04	**2nd phase :**Integration and implementation of mini branches as when as required by the bank	-do-	Provision 208 mini Br,	Define in later	With in project period

06.10.00	**Capacity Building of RBL**				
	1st Phase • Core Team for Training & Technology Transfer • Implementation and Operation Team for Pilot Project	Person	100 120	Head Office and Pilot Project mentioned in Annexure-03	18 month from the date of signing contract

	2nd phase : • Support Team for Control Offices. • Implementation and Operation Team for Branches	Person	70 874	Rest Branches and Control offices mentioned in Annexure-03	36 month from the date of signing contract.

06.11.0	**IP Telephony and IP Video Telephony system:**				
a.	**1st Phase :** IP Telephony and IP Video Telephony Device with related Software	Unit	01 (Projection nodes must be 2000)	Head Office Data Center	12 month from the date of signing contract
b.	**1st Phase:** Executive sets As per Annexure-4	unit	214	Head Office , Control Office and Branches	
c.	**1st Phase :**Basic sets As per Annexure-4	unit	355		
d.	**1st Phase:** Operator IP Phone with console	unit	03		
e.	**2nd phase :**Executive sets As per Annexure-04	unit	485	Rest Control Office and Branches	36 mth from the 12th month of the date of Signing.
f.	**2nd phase:** Basic sets As per Annexure-04	unit	709	-do-	
g.	**Any other necessary items if required**				

Section 7. Technical Specification

7.0 Data Center (DC) and Disaster Recovery Center (DRC)

A) Design Consideration.

The interested Tenderer must consider the following to submit the Tender.

i) Basic Consideration.

The Tenderer must consider Standard TIA-942 Tier 3 classification approach (with respect to Uptime Institute guidelines) in Developing RBL Data Center but certain exceptions are acceptable in which case RBL has no control over the rules and regulation of the Govt. The Tender are requested to visit the site with their own cost before submit the tender for Data Center at the 3rd floor, Rupali Bank Head Office Dhaka as per Schedule of Requirement in Section-06. For better understanding of the tenderer the following information and drawing are attached in the schedule.

i. Existing Floor Layout for Data Center at the 3rd floor, Rupali Bank Head Office Dhaka is defined in **Annexure-01**
ii. Appox. Room Area of each functional unit is defined in **Schedule of Requirement in Section -06**
iii. A Sample Floor Layout and Diagram depending on schedule of requirement is defined in **Annexure-01**

The Tenderer may proposed better solutions considering the above information depending of the floor layout in Annexure-01 for smooth operation of the Data Center.

The tenderer must consider the Load Balance of the said floor for preparation of the Data Center. The Present Load Balance information is mentioned in **Annexure-03**. So the Tenderer must submit the tender on the basis of this information and recommendation.

The Tenderer must analysis the total power consumption of the proposed **Data Center (DC)** and **Data Recovery Center (DRC).** The present power sources of the proposed location of DC and DRC are given billow.

Head Office Building, 3rd Floor (for DC)	**S.K. Road Branch, Narayangonj, 1st floor (For DRC)**
Substation: 1000 KVA, Source:P.D.B Function load: 604 KW Load: 400 KW, Use: 300 KW **Generator:** 500 KVA 225-230 KW	Substation : Not available now **Generator** : Not available now

Considering the above information for DC and DRC the Tenderer must submit the proposal as per technical specification in Section-07. The permission from DESA/DESCO/PDB regarding power is the responsibility of the tenderers, bank will provide necessary co-operation in this regard.

ii) Scalability

All components of the DC and DRC must support scalability to meet the requirements and demand of various projects of RBL. A scalable system is one that can handle increasing numbers of requests without adversely affecting the response time and through put of the system. The DC and DRC should support both vertical (the growth of number of severs within one sever rack) and horizontal scalability (non standard high density sever racks which may added on demand). All the power consuming components, like ups cooling units & power distribution units in the DC and DRC shall have scalability options to avoid over sizing & reduce the incredible wastage of power.

iii) Modularity

Modular design of the DC and DRC is an excellent strategy to address growth without major disruptions. RBL intends to build a scalable DC and DRC which can easily be expanded or upgraded on demand. For RBL scalability is important because new computing equipments are constantly being deployed either to replace legacy component or to support new missions critical projects. Preferably all the Components used in the DC and DRC physical architecture must be modular & hot-swappable in nature, so that RBL can minimize the human error as well as down time due to critical faults. Modular components are recommended to reduce the deployment time as well as the re-deployment time in case forced to change the DC and DRC location due to any kind of natural calamities.

iv) Availability

All the components of the data center must provide adequate redundancy to ensure high availability to all RBL projects and other DC and DRC services. Designing for availability assumes that systems will fail, and therefore the systems are configured to mask and recover from component or server failures with minimum application outage. The bidder shall make the provision for high availability for all the services of the DC and DRC. All the critical components used in the physical architecture shall provide multiple level of redundancy to reduce the MTTR (Mean time to repair) & to provide the maximum uptime to the DC and DRC.

v) Manageability

The DC and DRC shall be designed in an efficient way to ensure an easy maintenance. It must facilitate ease of configuration, ongoing health monitoring, and failure detection of all components supporting DC and DRC. The design must be able to match the growth of the environment.

A centralized physical infrastructure monitoring system which shall capable to record historical data, events and sent event details through email shall been provided to monitor & maintain the maximum up time for all the components in side the DC and DRC.

The device shall be SNMP compatible & can browser accessible which can monitor multiple parameters of all the IP based equipments in Data Center infrastructure, like uninterrupted power supply units, Cooling units, power distribution units, rack level PDUs, Environment monitoring units, DG sets, Cameras etc.

vi) Total Cost of ownership

All the above design parameters shall help RBL to reduce the capital investment as well as the operating & maintenance cost of the DC and DRC. RBL intends to build a highly efficient data center infrastructure which can maintain a PUE of (Power utilization effectiveness) less than 2. This means the DC and DRC over all efficiency shall be maintained above 50% starting from 30% loading to 100% loading.

The component level recommendations to improve the over all Data center efficiency is:

1. High efficiency IGBT front end modular scalable ups.
2. Chilled water based in row cooling units.
3. Closed coupled hot aisle containment systems.
4. Capacity management solutions.
5. Energy efficient data center lighting.
6. Air flow management solutions.

B) Supply, Installation, Commissioning, Testing and Documentation

i) Supply/Installation

The broad scope of work during this phase will include the following as per **Schedule of Requirement Section-06** and detail Technical specification below, but is not limited to:

Design of the DC and DRC Physical Infrastructure comprising of civil, electrical, and mechanical works including false ceiling, partitioning, installation of electrical components, cable laying etc (all of them shall be ISO certified) works required to build DC and DRC. This shall also include site preparation to make it suitable for setting up DC and DRC.

Multi-layer physical security infrastructure to prevent unauthorized access to the DC and DRC, help desk and other monitoring and management services.

Supply and Installation of Physical infrastructure components such as high efficiency UPS systems and state of the art closed coupled cooling System, power distribution system, Fire Detection and Control System, Diesel Generator Units, Lighting system, Power, IP based Surveillance systems, Infrastructure management software solutions and power cabling etc.

Integration, Commissioning & Acceptance Testing shall involve the completion of the Data Center site preparation, supply and installation of the required components & training on RBL data center infrastructure.

All documentation generated during design, installation and commissioning phase shall always be made available to RBL authority on request.

ii) Testing and Commissioning

Commissioning shall involve the completion of the DC and DRC site preparation, supply and installation of the required components and making the DC and DRC available to RBL for carrying out live operations. Test need to be carried out as per approved Acceptance Test Procedure. Any tools and equipment required for carrying out tests has to arrange by the bidder at their own cost.

iii) Final Acceptance Testing

Prerequisite for Carrying out FAT activity:

Detailed test plan shall be defined by the Tenderer and mutually agreed with RBL & their consultants. This shall be submitted by Tenderer before FAT activity to be carried out. All documentation related to RBL DC and DRC and relevant acceptance test document should be completed & submitted before the final acceptance test to RBL. One day training section shall be arranged to RBL support staff & the same shall be completed before the final acceptance test.

The FAT shall include the following:

All infrastructure hardware and related software items must be installed at RBL DC and DRC center site as per the specification.

Availability of all the defined services shall be verified.

Field service engineer shall demonstrate all the features / facilities / functionalities of all the infrastructure components installed & mentioned in the RFP.

The Filed service engineers will arrange the test equipment required for performance verification.

Successful bidder will also provide documented test results.

iv) Documentation

Indicative list of documents include project plan in MS project giving out micro level activities with milestones, Dependencies and deadlines.

- Original manuals and CDs from OEMs.
- Software Licenses
- Training material will be provided which will include the presentations used for trainings and also the required relevant documents for the topics.
- Floor Layout Drawings,
- Drawing of BMS components,
- Single Line diagram.
- Complete cabling system layout (as installed), including cable routing.
- The layout shall detail locations of all components and indicate all wiring pathways.
- The bidder shall be responsible for preparing Standard Operating Procedure (SOP) related to the operation and maintenance of each and every component of the RBL Data Center as per ISO 27001.
- The prepared process document shall be formally signed off by RBL technical committee before completion of final acceptance test.
- The selected bidder shall document all the installation and commissioning procedures and provide the same to RBL, within one week of the commissioning of Data center along with final configuration dumps and implemented solution details.
- The selected bidder shall be responsible for documenting configuration of all devices and keeping back up of all configuration files, so as to enable quick recovery in case of failure of devices.

Detailed Specification of work for each of the above mentioned components is given below:

C) Detail Specification of Data Center (DC)

We are going to deploy all servers in Racks to our Data Center. Initially we will complete 1st Phase and there will be provision for extension as 2nd Phase based on business projection. The required no. of room with approx. area including no. of RACK and Seat allocation is given below. The Tenderer may proposed better solutions based on floor spaces considering all functional unit of the DC for smooth operation.

	1st Phase			**2nd Phase**		
	Bundle 1			Bundle 2		
	Approx. Area (sft)	No. of RACK	No. of Seat	Area (sft)	No. of RACK	No. of Seat
Server Room	423	08	N/A		03	N/A
Communication Room	130	02	N/A		01	N/A
Raised floor for Server and communication room	553					
Network Operation Centre (NOC)	172	N/A	06		N/A	02
DC Operation Centre (DOC)	139	N/A	08		N/A	02
Power, Fire Fighting and UPS Room	273					
System Monitoring Centre (SMC)	772	N/A	25		N/A	05
Testing Room	140	N/A	04		N/A	02
Archiving Room	145	N/A	N/A		N/A	N/A
Waiting and Recreation Room	138	N/A	04		N/A	N/A
Project Manager Room	188	N/A	01		N/A	N/A
Staging Room	100	N/A	01		N/A	N/A
Emergency Exit Stair						
Substation Space	As required	N/A	N/A		N/A	N/A
Generator Space	-Do-	N/A	N/A		N/A	N/A
Cable ladder/ Structure cabling						

Sl. No.	Item Name with specification	Qty
7.01.01	**DESIGN AND CIVIL WORK WITH INTERIOR DECORATION OF DC.**	
a- m	**Dismantling Works:** Dismantling of the existing bricks wall and toilets, carefully removing wall & commode, basin, mirror & other fitting, door, frame etc, existing chamber as per drawing-design and stack the rubbish to the safe distance as per instruction of the bank authority.	Approx 1500 sft
	Removing Mosaic Works: Dismantling & removing existing floor mosaic, carefully removing and stack the rubbish to the safe distance as per instruction of the bank authority.	Approx 2500 sft
	Construct Beam if necessary for Load bearing as per Annexure-3	As required
	Brick Works : 125mm brick work with 1st class bricks in cement mortar (1:4) and making bond with connected walls in/c racking out joints, filling the intersects with morter, cleaning and soaking the bricks at least for 24 hours before use and washing of sand, necessary scaffolding, curing at least 7 days. proper plaster and plastic paint having crack, damage and damp proof within $_0{}^0$ C to 50^0 C.	Approx 1400 sft
	Plaster Works: Minimum 1/2" plaster to wall (1:3) inner surface of the building, finishing the corner and edges in/c removing the existing damp plaster (if necessary), washing of sand, cleaning the surface with clean water, necessary scaffolding . Plaster must be crack, damage and damp proof within 0^0 C to 50^0C.	Approx 1300 sft
	Floor Tiles: Supplying, fitting & fixing of homogeneous mirror polish floor tiles (2'x2'-approved sample of china/RAK) and racking out the joint with tiles grout including cutting and laying tiles in proper way and finishing with care etc. all complete as per direction of bank authority.	Approx 2500 sft
	Skirting: Supplying fitting & fixing of 4" height Skirting of homogeneous mirror polish floor tiles and racking out the joint with tiles grout including cutting and laying tiles in proper way and finishing with care etc	Approx 2500 sft
	Paint Works: Plastic emulsion paint of approved colour of Berger to wall/column of inside wall of two coats over a coat of brand specified primer / scalar collapsing specified time for drying/recoating including cleaning, drying, making free from dirt grease, wax, removing all chalked and scald materialism fungus, mending grid the surface defects, sand papering the surface and necessary scaffolding by roller/ spray etc and printing with two coats of synthetic enamel paint approved color over a coat of priming etc all complete as per direction. Paint must be crack and damp proof within o^0 C to 50^0 C..	Approx 3000 sft
	PVC Door: Supply fitting and fixing of plastic door (Supper/United-Size: 7'-0"X 2'-6") with all hardware materials and removing the existing door all complete as per direction. (Toilet use only)	01 set
	Tempered Glass Door (size: 3'-0" X 7'-0"): Supply and installation of 10mm thick tempered glass swing door in/cl fitted with concealed best quality door closer, key locks, handle etc. all complete as per direction.	As required by the design
	Fire Rated Door (2hr rated) for DC 4' x 7'	01 set
	Fire Rated Door (2hr rated) Fire Stair Case (3' x 7') with Panic bar	01 set
	Tempered Glass Partition: Supplying, fitting and fixing of Protector Bit Glass Partition work made with anodized 'Silver' color Aluminum Protector Bit section, silicon gum & 10mm Tempered glass included edge polish, original bronze anodized star gead matching, screw, etc. Complete in all respect as per design, drawing and direction	Approx 400 sft
	Frameless 10 mm Glass Partition: Supplying, fitting and fixing of Protector Bit Glass Partition work made with anodized Silver color Aluminum Protector Bit (16mm X 38mm) section, silicon gum & 10mm clear glass included edge polish, original bronze anodized star gead matching, screw, etc. Complete in all respect as per design, drawing and direction	Approx 900 sft
	False Ceiling: Supplying fitting & fixing of 9mm thick design Gypsum board laminated by mechanical hot press with a milk white PVC membrane with power coated T bar frame 2'-0" X 2'-0" ingrid suspended from ceiling by 16 swg double ply G.I wire fixed in the ceiling by royal plug, screens, hooks, nails etc. Maintaining straight lines and desired finished level	Approx 4000 sft

	including making holes in slabs or beams by electric drill and mending good the damages if any execution of work including cost of the materials accessories scaffolding labour for installations screws, nails	
	Dry Wall : Supplying, fitting & fixing of 1.5" thick Gypsum board suspended from wall by GI frame fixed in the wall by insulation, royal plug, screen, hooks, nails etc. Maintaining straight lines and desired finished level including making holes in slabs or beams by electric drill and mending good the damages if any execution of work including cost of all materials accessories scaffolding labor for installation screws, nails including doccu painting all complete as per drawing-design and direction	Approx 700 sft
k	**Raised floor for Server and communication room :**	Approx 500 sft
	Features : • HPL Panel : FS:800, Breadth Size :600mm x600 mm, Panel Thickness : 35 mm • Finished Floor Height : FFH 300mm, • Pedestal, Stringer and fasteners and other materials will be in accordance to match for the above. • Systematically anti-static, Fire proof, Damp proof, • Support heavy load, easy to install, disassembly and interchange. • Difficult to be dirty, Easy to clean, decorative, appearance and durable using time. • Warranty 20 years. **Panel Lifter** : Double cup suction type (no. 02) **Insulation :** • General Standard of TD pre insulated panel for insulation duct. • Fire safety, fire retardant B1, Size : 4m(L)x 1.2 m(W)/pieces, Thickness of panel : 20mm, Density of polyure : 52kg/m3, Compressive strength : 200 N/mm2 • Thermal Conductivity : 0.021W/m.c, Flame retardant :B1, Friction coefficient: 0.0135 • Weight :1.46 kg/m2, Working temperature : 60 to 80c, Humidity:0 to100%, Pressure in duct max: 2,000 Pa, Air flow max : 12 m/s • Warranty 20 years.	
n.	Emergency Exit Stair: Ground to 3rd floor, Rod with steel plate having both side railing.	01 set
0-p	Substation and Generator Room: Grounding floor height must be out of flood range,. The sufficient Exhausting fan must be installed for sufficient air flow.	01 set
7. 01.02	**FURNITURE FOR DC** **(All furniture items will be supplied as per design and direction of bank authorities)**	
a)	**Computer Table for NOC(6) , DOC (8) ,SMC (24), Testing Room(4), Staging(1)** Brand : OTOBI or Equivalent Top Size : Length x Width: 3' (three) x : 2.5' (two and half) feet Colour : Wooden/Black Material: min. 25 mm thick laminated particle-board/Process Wood . Side Drawer with lock and key	**43 set**
b)	**Secretariat Table for Project Manager** Brand : OTOBI or Equivalent Length : 4.5' (Four and half) Feet Width : 3' (Three) Feet Height : Standard Colour : Wooden/Blcak Material: Process Wood. Side Drawer with lock and key Full size glass on the top	**01 set**
c)	**PM Chair**	**01 set**
	Supplying, fitting & fixing at site (high-back) with intimate contact lumber-support high lilting-back seat with hydraulic lift upon base on 5 castor wheels etc.	
d)	**Revolving Chair** Brand : OTOBI or Equivalent Size : Standard Colour : Wooden/Blcak Material: Rod Frame with Foam and Fabrics	**46 set**

e)	**Long Tea Table for Waiting and Recreation room**	**01 set**
	Brand : OTOBI or Equivalent Length : 6' (Six) Feet Width : 2.5' (Two and Half) Feet Height : Standard Colour : Wooden/Blcak Material: Wood Frame with Top Glass	
f)	**Sofa set for Waiting and Recreation room (size 6'x2.5')**	**02 set**
	Brand : OTOBI or Equivalent Length : 6' (Six) Feet Width : 2.5' (Two and Half) Feet Height : Standard Colour : Wooden/Blcak Material: Wood Frame with foam and fabrics	
g)	**Reception Desk**	**01 set**
	Min. 5' x 2.5' desk made of perforated sheet in fornt with glass top counter and laminated pasted parts board work top supported by wooden framing including drawer unit, key board tray and best quality hardware materials.	
h)	Wall Mounted Cabinet with file cabinet two hours fire rated humidity & Magnetic control File cabinet, Min. 170 Litre	**01 set**
7. 01.03	**SECURITY AND ENVIRONMENTAL MONITORING SOLUTION**	
a)	**Gas / Fire Prevention, Detection and Suppression System with necessary Equipments.**	01 set with other necessary equipment
	Suppression Agent (Gas) : NAFS-125 or equivalent Fire Suppression System	
	Country of Origin	
	Country of Assembly	
	Brand	
	Model	
	80 Ltr Cylinder with all Accessories (Server Room)	
	Solenoid Actuator Assy 24V DC, Manual Actuator, Discharge Hose, Master Cylinder Adapter - ENOT, Pneumatic Actuator Assy, Pilot Hose Assy, Warning Sign Stickers, Manifold with Check Valves, Discharge Pressure Switch, Cylinder Supervisory Pressure Switch Brand: To be mentioned by the bidder	
	Qty: as required	
	68 Ltr Cylinder with all Accessories (Power Room)	
	Solenoid Actuator Assy 24V DC, Manual Actuator, Discharge Hose, Master Cylinder Adapter - ENOT, Pneumatic Actuator Assy, Pilot Hose Assy, Warning Sign Stickers, Manifold with Check Valves, Discharge Pressure Switch, Cylinder Supervisory Pressure Switch Nos 1	
	Brand To be mentioned by the bidder	
	Origin: To be mentioned by the bidder	
	Qty: as required	
	NFS125 filling in the above cylinder	
	NFS125, Chemical Name Heptafluoropropane, Chemical Formula : CH3CHFCF3, ODP:0, Life Time: 31-42 Years. Operating Temperature, Range: Negative 18Deg C to 54 Deg C., Discharge Time: Less or equal to 10 Sec. (146+48=194)	
	Brand To be mentioned by the bidder	
	Qty: as required	
	Other Accessories	
	80Ltr Cylinder Back Rack Nozzels	
	Qty: as required	
	Design of the System	
	The tenderer must submit the design along with the proposal. The design will show the quantity and location of all system components. The design will include description and routing of all the piping. Vendor shall also provide hydraulic calculation from OEM including all calculations used for the design, including the flow calculations to determine pipe and nozzle sizes.	
	Control and Detection device	
	Detection and control system with provision for pre-alarm and automatic agent release	
	The detection and control system must deploy photoelectric smoke detectors	
	Alarm Devices and Illumination Devices	

	A single detector activated a pre-alarm and a second detector activated to generate pre-discharge signal and start discharge of agent set at maximum 30 seconds delay.	
	The system discharge time shall be not more than 10 seconds	
	Discharge through a resettable solenoid operated device and release the agent through a differential pressure value	
	Storage and input device	
	The system must store in steel storage containers complying with D.O.T. specifications and shall be equipped with differential pressure valves. .	
	No replacement parts shall be required to refill the containers	
	Provide installed in accordance to international safety codes	
	Provide design layout include description and routing of all the piping, flow calculations, pipe and nozzle sizes.	
	Consider no effect on the ozone layer as does not contain Chlorine nor Bromine in its molecular structure –zero GWP & zero ODP	
	Certification of NFPA,UL (Under Laboratory), FM (Factory Mutual), ULC, ISO, 72E	
	Warranty and Maintenance	
	Warranty for 3 years with parts and labour with refill. Under warranty and maintenance period the tenderer must be responsible for quarterly maintenance of the total system. Quarterly maintenance shall include but not limited to the following: Control Panel Detection Devices Alarm Devices Illumination Devices Electronic Actuators Manual Input Devices GA*S Cylinder System* *Gas leakage test.*	
b)	**Water leak detection**	
	Country of Origin	01 set with other necessary equipment
	Country of Assembly	
	Brand	
	Model	
	Planning & Design of an Integrated Linear Water Detection System with the liquid sensing cables covering all necessary area of Data Center with zone and point leak detection system	
	Detection and Alarm device : Detection and control system with provision for pre-alarm	
	Certification of NFPA, UL (Under Laboratory), FM (Factory Mutual), ULC, ISO, 72E equipments NFPA, UL (Under Laboratory), FM (Factory Mutual), ULC, ISO, 72E equipments	
	Installation, testing and commissioning of Water Leak Detection System	
	Warranty 3 years	
c)	**Smoke Detection**	
	Country of Origin	01 set with other necessary equipment
	Country of Assembly	
	Brand	
	Model	
	Planning & Design of an Integrated High Sensitivity Smoke Detector System covering all necessary area of Data Center in accordance with NFPA, UL (Under Laboratory), FM (Factory Mutual), ULC, ISO, 72E equipments	
d)	**Particle detection**	
	Country of Origin	01 set with other necessary equipment
	Country of Assembly	
	Brand	
	Model	
	Planning & Design of an Integrated High Sensitivity Smoke Detector System covering all necessary area of Data Center in accordance with NFPA, UL (Under Laboratory), FM (Factory)	
e)	**Access control System**	
	Country of Origin	01 set with other necessary equipment
	Country of Assembly	
	Brand	
	Model	

	Planning & Design of an Integrated Security and Access Control System with a combination of Biometric Security Access Systems and Proximity Card Readers with the following Component:	
	Door Controller	
	Contact less Card Reader	
	Contact less Smart Card	
	Keypad	
	Door Sensor	
	EM Lock	
	Break Glass	
	Access Management Software with following features:	
	Designer (for devices configuration)	
	Security manager	
	I/O events and access reporting	
	Software license manager	
	User access right operator	
	Database backup and restore	
	Interface (for events data transfer)	
	Analyzer (for system information)	
	Verify and rectify cards database	
	Import and export (cards and transaction events)	
	Time Attendance Management	
	Monitor staff movements / access as well as configuration of Time Zone Access	
	Warranty for 3 years with parts and labour	
f)	**CCTV**	
	Country of Origin	01 set with other necessary equipment
	Country of Assembly	
	Brand	
	Model	
	Planning & Design of an Integrated CCTV System with Digital Video Surveillance System with digital video multiplexer,	
	Hard Disk Recording and Remote Video Transmission features	
	Support minimum 16 frames per second up to 64 frames per second	
	Multiple recording modes with motion sensitive recording system.	
	Data Backup should be at least 6 month in side	
	All support areas including the console rooms should be covered by Surveillance cameras.	
	Installation, testing and commissioning of SECURITY SYSTEM	
	Warranty for 3 years with parts and labour with refill	
7. 01.04	**Power, Cooling and Lighting System**	
a)	**Sub-Station for DC**	
	Brand : To be mentioned	01 set with necessary equipments
	Model : To be mentioned	
	Country of Origin: USA/Japan/Europe	
	Country of Assembly	
	Power load permission from DESCO/DESA or PDB	
	Supply fitting, fixing and customization of following item with all necessary equipment/materials as usual as individual power source including power allotment/sanction from DESCO/DESA/DPDC.	
	Site preparation for the proposed Sub-Station including size and equipment layout drawing	
	500 KVA , Functional Load 400 KW	
	Load calculations should be performed for incoming-outgoing power cables	
	Cable routing drawing should be provided (for all sites)	
	Interconnectivity drawing between DESCO/DESA or PDB source, Sub-Station and generators	
	Auto Change-over Switch	
	Power Transformer,	

	HT, LT Switchgear,	
	Power Factor Improvement Plant (PFI) Plant (mini. 0.8)	
	Automatic Voltage Regulator	
	The tenderer must submit the A, B,C license in this regard	
	3(three) Years warranty with parts and labor	
b)	**Generator for DC**	
	Brand : To be mentioned	02 sets with necessary equipments
	Model : To be mentioned	
	Country of Origin: USA/Japan/Europe	
	Country of Assembly	
	400 KVA Diesel Generator, one will be primary and other will be redundant. The Tenderer must calculate and sizing of the IT equipment and Cooling and other load. According to sizing they must submit the proposal for smooth operation.	
	Proposed generator should meet the climate requirement Viz 10^0 – 40^0 C and 80% relative humidity.	
	6 cylinders in-line, turbocharged, direct injection, 4 stroke,	
	self excited, self regulated, screen protected, drip proof,	
	1500rpm, 380/220 volts, 50Hz, 0.8 p.f., 3 phase alternator with 1% voltage regulation and complies to BS5000,	
	water-cooled diesel engine complete with Marelli brushless,	
	Gateway card & Monitoring Card for Data transfer to the BMS system	
	Fluid Flow Meter with Fuel Level Indicator (Low & High) with warning & Fuel Pump,	
	Fuel Water Separator, (Double Housing),	
	Spring Isolator for anti Vibration,	
	3P withdraw-able Motorized ACB and ATS Controller,	
	Noise level 80dBA, Soundproof Canopy	
	Double Silencer.	
	Phase Rotation Censor	
	Other following components:	
	a) Heavy duty radiator	
	b) Heavy duty air filter	
	c) 12V starter motor and alternator	
	d) Standard type exhaust Silencer	
	e) Battery cables '+' and '-'	
	f) Skid Fuel Tank	
	g) Expansion Joint	
	h) Canopy (Acoustic Type)	
	i) AMF Switch Board	
	j) 24V Nickel-Cadmium Battery c/w rack & cable	
	k) 8 x Dry contact for critical alarms	
	l) Automatic Transfer Switch (ATS)	
	Site preparation for the proposed generator room including size and equipment layout drawing	
	Interconnectivity drawing between primary source and generators (backup source)	
	floor layout drawing showing equipments (LT cubicle, Synchronization, Earthling, Switchgears, Power transformer, PFI Plant, Harmonic & TVSS filters etc) dimension	
	3(three) Years warranty with parts and labour	
c)	**UPS**	
	Brand: APC/ Emerson or equivalent.	**03 sets with necessary equipments**
	Model: To be mentioned.	
	Country of Origin: USA/Europe or equivalent	
	Country of Assembly: To be mentioned.	
	System capacity- 60 KVA	
	Type of redundancy- N+1 (where N= 2)	
	Capacity Upgradeable up to: 120KVA	
	Backup time- 30 Min with full load	
	Hot-Scalable Power, Runtime & Factory Fitted output Modular Power Distribution	

	Input Phase: Three (TP + N + E), if one input phase fails out of three, full UPS system (all UPS modules) to run with other two phases automatically
	Input Power Factor: 0.99
	Output Power Factor: 1
	Efficiency: >95%
	Utilization/loading capacity: 1
	This specification describes the operation and functionality of a continuous duty, three-phase, sol on-line double conversion static Uninterruptible Power System (UPS) hereafter referred to as the U The UPS shall utilize a Rack-mounted N+1 redundant, scalable array architecture.
	The UPS shall be **true on-line double conversion UPS system using IGBT based technology** i.e. the IGBT based Rectifier of the UPS system converts the input AC power to DC and then the IGBT based inverter converts the DC into clean AC power.
	The UPS system shall be made up of 2 identical self redundant scalable UPS units operating in on-line mode. Each bank should cater to each power path till the Datacenter. In case of Failure of any UPS in a particular bank the other UPS should take over the load. In case of any bank fails the other bank to take over the total load.
	UPS shall be utility friendly with minimum 6% input Total Current Harmonics, while providing conditioned power to the critical load bus, and charging the batteries under steady-state operating conditions. This shall be true while supporting loads of both a linear or non-linear type. This shall be accomplished with no additional filters, magnetic devices, or other components.
	Input Power factor (better than 0.99), shall be best in Class, which shall helps to reduce cost of Ownership by reducing Electricity Bill and lower rated distribution components.
	• UPS shall have the highest degree of Generator Compatibility; maximum sizing shall not exceed 1:1.1 • UPS shall have the with widest frequency tolerance. • UPS shall provide enhanced Battery life by way of wider input voltage & frequency tolerances. • Temperature compensated battery charging and intelligent battery management system shall be a part of ups system. • UPS shall give the high Efficiency (better than 94%), thus help to reduce the total cost of ownership. • UPS shall maintain an efficiency of 93% - 94% from a load of 25% of its capacity to 100% of its capacity. • UPS shall maintain a High degree overload capability to tolerate unwanted load fluctuations and thus protecting critical facility under any circumstances. • UPS shall come with Power Communications, local or remote or in any type of network by way of simultaneous communications. Optional Relay Card, ModBus / JBus Card shall be provided in case asked. • UPS shall deliver unity power factor out put to match the sever loads having closer to unity power factor. • A make before break maintenance bypass panel shall be provided along with ups.
	Hot-Scalable Power, Runtime & Modular Power Distribution
	Full digital signal processing using the latest DSP technology
	Matching 3-phase 415V 50Hz rectifier/charger
	400V 3-Phase input/Output
	Online, Double Conversion topology
	D9 Single or Dual mains
	Transistorized PWM inverter (IGBT Inverter)
	Microprocessor based monitoring and control system
	Fully rated automatic static bypass
	Sinusoidal output waveform
	ITHD < 3% (low harmonics)
	Manual maintenance bypass switch
	Battery disconnect fuse switch
	Load Bus Synchronization board c/w UPS interface card and control wiring
	Battery Life: minimum 10 years
	Three years equipment warranty
	Service maintenance (2 times/year)

	UPS output & Power Distribution	
	Out put distribution from UPS: Minimize the number of single point of failures in the down stream path. Bus ducting :Copper shall or dedicated cable Cables trays are routed through the hot aisle & occupy the minimum space in hot aisle Dedicated cables is provided to energize the each rack Bus ducting avoid sparking due to any kind of over heating Power Distribution Caballing : Boot/Top Digital metering for VOLTAGE AND CURRENT for ALL THREE PHASES, NEUTRAL & ERATH CURRENT. Emergency Power Off Option inside the Data Centre. Meet the manufacturers recommend minimal N-G potential for healthy running of the equipments Certified and guaranteed for at least 20 years	
d)	**Automatic Voltage Regulator (Industrial)**	
	Brand: To be mentioned. Model: To be mentioned Country of origin: To be mentioned Country of Assembly: to be mentioned. Capacity: 200 KVA Input Voltage Range: 380-400 V Output Voltage: 400 V(±1-5%) Frequency: 50 Hz Control System: Combined Phase Controlled servo type with digital control Phase: Three Phase Protection: Over and Under Voltage, Over Load, Short Circuit, Surge Spike, Transient Protection and Phase Missing Protection Cooling System: Air Cooled Correction Accuracy: ±0.5 -2% Voltage Correction Speed: 30 V/S-100 V/S Wave Form distortion: 0 Delay Time: 3 Sec Protection: Over Voltage, Over Current, Loss of Phrases, Short Circuit, Sag, Surge, Spike, RF Noise , Black Out, Brown out Display: LCD, Reset: Auto, Power Factor: 0.8 Temperature Range: 5□C-55□C and humidity of 98% Three years full warranty with parts and labour	01 Set with necessary equipment
e)	**Automatic Transfer Switch (ATS):**	
	Brand: To be mentioned. Model: To be mentioned Country of origin: To be mentioned Country of Assembly: to be mentioned. Type : Automatic switching power redundancy to single corded equipment Input Voltage : 200V,208V,230V Frequency : 47 - 63 Hz Dimension : H X W X D (44x 432x229)mm Output Voltage :230V Form factor :2U Manageability :Network manageable through TCP/IP Transfer Time :Zero	Min 05 As per design consideration of the Tenderer

	Capacity :32A Display :LCD display for operating information Output Connection : 16) IEC 320 C13, (2) IEC 320 C19 Interface: SNMP and Telnet. Allows users to access, configure, and manage units from remote locations to save valuable time Input Cable : 02 units IEC-320 C20 Warranty: 3(three) Years full warranty with parts and labour.	
f)	**Transient Voltage Surge Suppression (TVSS)**	
	Brand: To be mentioned. Model: To be mentioned Country of origin: To be mentioned Country of Assembly: to be mentioned. Test class according to IEC, Max operating voltage (Un) 3X480V, Max discharge current **100KA**, Voltage protection level and Response time <250ns. Standards Compliance: - Alarm board and Surge counter All equipments at DC must be protected. Connection Type : Parallel Operating Voltage Range : -15% Surge Current Capacity: 160kA Fault Current Rating (AIC) : 65kAIC Operating Frequency Range : 47…63 Hz Capacity : Continuous EMI/RFI Attenuation : 40 db typical Response Time : <0.5 nanoseconds Dry Contract rating : 125 VAC, 8.0A, 1.0pf Operating Temperature : -40°C to +50°C Operating Humidity : 0% to 95% Status indication : LEDs, Dry Contacts Certifications : UL 1449, CUL Three years full warranty with parts and labour	01 Set with necessary equipment
g)	**Surge Protection For Lighting Arrester**	
	Brand: To be mentioned. Model: To be mentioned Country of origin: EU/USA or equivalent Country of Assembly: EU/USA or equivalent Test class according to IEC, Max operating voltage (Un) 3X480V, Max discharge current **50KA**, Voltage protection level and Response time <250ns. Standards Compliance: IEEE C62.41, IEEE C62.45, IEEE C62.11,NEMA LS-1, IEC 61643-1, IEC 61643-12 Listing, UL 1449 2nd ed. CE - Alarm board and Surge counter All equipments at DC must be protected. Three years full warranty with parts and labour	01 Set with necessary equipment
h)	**EARTHING SYSTEM**	
	Planning & Design the Grounding System for the Data Center, UPS Room and other relevant area with a standard of following features: ♦ J-STD-607 standard building earth system to earth ground ♦ European equivalents EN50310 & EN50173-1 ♦ IEEE 1100 standard common bonding network (CBN) including an earthling grid below the raised floor ♦ TIA-942 standard earthling of the data racks and equipment to the CBN ♦ The server room earthling to be carried out to form an earthling mesh of insulated copper wire below the false flooring and connected to false flooring supports. This earthling shall be connected to separate earthling pits dedicated for electronics through insulated copper cables. ♦ Earth Neutral voltage at the input of UPS <1 Volt and at Output of UPS should be 0 (Zero) Volt.	As per design consideration of the Tenderer

i)	**Structure Cabling with power Distribution.**	
	The electrical cabling must covered the following Features and services:	As per design consideration of the Tenderer
	Total structure design and installation should be certified and guaranteed for at least 20 years The tenderer must keep the power provision to 15 RACK in server and communication room including other devices. Minimize single point of failure Assuming average power consumption 4 KW/Rack Minimum 16 power outlet per rack Back Up Power Supply Generation System Power Protection System Lightning Protection System Heat Removal System Grounding System Remote Monitoring System Double Conversion Through Online UPS, Manageability of large industrial loads 80mm Strikes orb module with IEC 61643-1 specification Selecting Module Type Redundant Power Supply Essential Main Switch Board (EMSB) UPS Distribution Board (UPS-DB) Lightning Surge Protection Device (SPD) Power Distribution Unit (PDU) Lighting/Small Power Distribution Board (DB-LP) Mechanical Switchboard (CRAC-DB) Interconnection electrical cabling International Standard Certified product like NFPA, UL (Under Laboratory), FM (Factory Mutual), ULC, ISO	
	Electrical Cable	
	Origin Brand Type Features: International reported brand with BDTI approved. Rated voltage 600/1000v, permissible voltage 720/1200 fixed::40 to 70 degree centigrade. Including earthling line.	As per design consideration of the Tenderer
	Industrial Socket.	
	Origin Brand Type Features: International reported brand with BDTI approved 3-point socket with earthling point, 220 to 250v AC, operating temperature -5 degree to 55 degree centigrade with fire proof material cover and griper.	As per design consideration of the Tenderer
	Power socket.	
	Origin Brand Type Features: International reported brand with BDTI approved 3-point socket with earthling point, 220 to 250v AC, operating temperature -5 degree to 55 degree centigrade with fire proof material cover and griper with switch.	As per design consideration of the Tenderer
	Power switch.	
	Origin Brand Type Features: International reported brand with BDTI approved 3-point switch with earthling point, 220 to 250v AC, operating temperature -5 degree to 55 degree centigrade with fire proof material cover with Flush mounting and face plate.	As per design consideration of the Tenderer
	Circuit Breaker	
	Origin Brand Type Features: International reported brand with BDTI approved with appropriate power calculation.	As per design consideration of the Tenderer

	MDB :	
	Origin Brand Type Features: Supplying fitting and fixing factory fitted MDB with Bus Bar according to proper power calculation.	As per design consideration of the Tenderer
	SDB :	
	Origin Brand Type Features: Supplying fitting and fixing factory fitted SDB with Bus Bar according to proper power calculation.	As per design consideration of the Tenderer
	Other Accessories: Tenderer must proposed other related item and accessories if necessary for fitting and fixing and installation.	
j)	**Lighting with Emergency Light**	
	Brand : To be mentioned Model : To be mentioned Country of Origin: To be mentioned Country of Assembly **:** To be mentioned Appropriate number of light fixtures (Critical) to be feed from control supply UPS for data Centre and remaining to be feed from DB. Ceiling mounted CFL lighting fixtures to provide a lighting illumination level of 200 lux metered at 85 cm above the floor.. Data Centre Area will be provided with the Normal lighting and with a few Emergency lighting fixtures. The luminaries will be selected to suit architectural, functional and aesthetic requirement. The Data Centre will be provided with 15W or 2X15W wall-mounted or ceiling mounted. The lighting panels will be 3-phase type with outgoing MCB circuit breakers. Third core for earthing the lighting fittings, plug points. The wiring will be done with copper wires in using 2 cores 1.5mm2 cables for point wiring and looping and 2.5mm2 copper multi-strand FRLS	As per design consideration of the Tenderer
k)	**Emergency light through alternate power in case of power failure for DC area**	**06 Sets**
	Auto ON when CP is not available Power Supply: AC Local Voltage. Recharging Time: 16-24 hrs. Operating Time: 4-5 Hours. Built-in Battery: Rechargeable Sealed Lead-Acid Battery (6V 4AH). Switch: 3 Stage Slide Switch.	
	Operating Temp : 0-40 C	
l)	**Precision Air-Conditioning System with De-humidification System in Server & Network room**	
	Brand : To be mentioned Model : To be mentioned Country of Origin: EU/USA/Canada or equivalent Country of Assembly **:** EU/USA/Canada or equivalent Microprocessor based closed controlled Redundant Precision Air-Conditioning System with De-humidification system Required Redundancy N+N(N=2) Maintain with in minimum and maximum operating temperature & relative humidity range. Heat Removal System Heat Load and other thermal measurement with proper intelligent cooling management system for appropriate cooling with maintaining following environment Sensible Heat Ratio (S.H.R.) :0.90 Sound Pressure Label-dB(A):57 Server room shall be air-conditioned with under floor discharge type Precision Air-conditioning Unit each of 10.0TR (12000 BTUH / 35KW) Nominal Cooling Capacity for maintaining indoor temperature of 20±1^{o}C, 50%±5% inside RH & 45 deg C outside ambient temperature & De-humidified air quantity of min 5000 cfm (8500 CMH) . The room temperature shall be maintained at 20^{0} C +/- 1 Deg C and 50% +/- 5% RH and	04 Sets with other necessary equipments

outside temperature is 45^0C is to be considered for condenser sizing. The grille outlet temperature should be less than 18 deg C. The air-conditioning unit shall be designed specifically for high sensible heat ratio applications.

The system shall contain Scroll compressor with capacity modulation as per actual requirement, Evaporator blower with energy efficient EC Fan technology & high efficiency coil, Heater, Infrared Humidifier, De-Humidification cycle controller, PID Logic controlled Microprocessor with associated electrical components, Thermostatic expansion valve (TXV) all of which shall be contained within the cabinet of the unit. The outdoor unit shall be comprising of high capacity Condenser fan with variable speed motor and high size coil designed for 45 deg C ambient and heat rejection of more than 70 KW per condenser with 3 fans.

The Technical specifications of the construction of unit are as under:

1.1 Cabinet Construction:

The frame & panel shall be constructed of heavy gauge Cold rolled cold annealed sheet steel duly powder coated. The side panels of unit shall be double skinned for increase life span and reduction of noise & vibration. Front panel shall be removable hinge for easy service.

1.2 Refrigeration Circuit

The refrigeration system shall be of the direct expansion type and incorporate hermetic scroll compressors. The system shall include HP control and LP switch, Thermostatic expansion valve, filter drier, sight glass and charging port. Each refrigeration circuit shall include rigidly mounted Isolation valves in the discharge and liquid lines to aid servicing and installation.

1.3 Evaporator Coil

The evaporator coil shall be constructed of rifled bore copper tubes and louvered aluminium fins, with the frame and drip tray fabricated from heavy gauge aluminium. The drip trays must be double angled for condensed flow easily removable for cleaning.

1.4 Compressor

The compressor shall be of high efficiency Copeland make SCROLL design, with an E.E.R. of not less than 11.6 BTU-H/Watt (COP of not less than 3.5). Compressor shall have inbuilt overloads, and shall be mounted on anti vibration mountings. There shall be one Compressor in each Precision AC unit.

The compressor shall have automatic variable capacity control for delivering resultant effectiveness from 10% to 100% of rated capacity for obtaining best energy saving considering internal load and ambient temperature fluctuations.

1.5 Evaporator Fans

There shall be one no. Evaporator fans in each Unit. The fan can be **direct driven EC type** with backward curved blade profile. The fan shall have minimum 25 Pa static pressure and adjustable speed for delivering up to 5000 cfm.

1.6 Electrical heating

The electrical heating elements shall operate at a heat density level not exceeding 60 kW / Sqmtr. The low watt density elements shall be of finned tubular construction. The heating circuit shall include dual safety protection through loss of air and high temperature controls.

1.7 Service Area

The unit shall be serviceable with a maximum service space of 1000mm in front of the unit. No side & rear access required for servicing.

1.8 Air Filtration

Filtration shall be provided by dry media disposable filters capable of filtering air to 95% down down to 5 micron efficiency and shall be replaceable from the top of the unit.

1.9 Air-cooled condensers

There shall be one Air-cooled condenser for each Precision AC unit. Condenser shall be the low profile, weather proof type incorporating high efficiency direct drive, external rotor motors with axial blade fans. The high efficiency condensers shall be factory matched to provide an operating range from 0^0C to $+45^0$C. Condenser shall be suitable for 24 hours operation and be capable of providing vertical or horizontal discharge. The condenser fan motor shall be speed controlled to ensure stable operating conditions at variable ambient temperature by a factory fitted, direct acting pressure actuated fan speed controller.

1.10 Humidification

The humidification system shall be infra-red type.

1.11 De-Humidification

De-humidification cycle shall be of energy efficient heater less type with EC variable speed fan or Solenoid Operated Split Coil type.

1.12 Controls

The standard controls shall be of microprocessor based programmable PID logic controller, that monitors, displays and operates the precision cooling units, so that the environment is held within desired specifications.

	The controls shall have separate indications for • Various modes of operation (cooling, heating, humidifying and de-humidifying), • Alarm conditions (temperature high, wet floor and loss of air flow) • Graphical displays of set temperature & humidity and achieved temperature & humidity • Date, time and unit identification display • Back up battery charge status display on the controller screen • Visual system alarm indication (along with mutable audio alarm as well) • 48 hrs temperature and humidity graph display menu • Programmable services interval indication display • Alarm shall be automatically ceased/removed when it goes to normal • Controller shall be network manageable through SNMP web card. Access to the controller settings shall be protected with passwords to prevent against unauthorized access. The unit shall also incorporate the following protections: • Single phasing preventers. • Reverse phasing • Phase imbalancing • Phase failure • Overload tripping (MPCB) of all components **Design Considerations:** Heat-load calculation together with Precision air conditioner placement, Hot & Cold aisle design must be submitted. Installation, testing and commissioning of AIR CONDITIONING SYSTEM (Precision) Warranty 3(three) Years with parts and labour	
m)	**Comport Air Conditioning System for the following rooms:**	
	Power Room (2), SMC (2) and Waiting Room and Lobby(2) : Brand : To be mentioned Model : To be mentioned Country of Origin: To be mentioned Country of Assembly **:** To be mentioned Split Type Air- Conditioner. Wall mounted (Inverter type power saving) with wireless remote control & clock, Capacity 24000 BTU/h. **2 Ton.** Installation and Fixing with water outlay Warranty 3 year with parts and labour	**06 sets**
	Archiving Room, DOC, NOC,Testing and PM room :	**05 sets**
	Brand : To be mentioned Model : To be mentioned Country of Origin: To be mentioned Country of Assembly **:** To be mentioned Split Type Air- Conditioner. Wall mounted with wireless remote control & clock, Capacity 18000 BTU/h. **1.0 Ton.** Installation and Fixing with water outlay Warranty 3 year with parts and labour	
n)	**De-Humidifier**	
	Dehumidifier for (Battery and Power Room) Brand : To be mentioned Model : To be mentioned Country of Origin: To be mentioned Country of Assembly **:** To be mentioned Dehumidification: 18 liter /24 Hour Power: 220/240V 50 Hz Current: 1.6 A Power Consumption: 290W Working Environment: 5□-35□C Bucket Volume: 4L	02 sets or as per design consideration of the Tenderer.
	Dehumidifier for (Archive Room) Brand : To be mentioned Model : To be mentioned	01 sets or as per design consideration

	Country of Origin: To be mentioned Country of Assembly **:** To be mentioned Dehumidification: 12 liter /24 Hour Power: 220/240V 50 Hz Current: 1.6 A Power Consumption: 290W Working Environment: 5□-35□C Bucket Volume: 4L	of the Tenderer.
n)	**Wall display for NOC monitoring facility**	
	Brand : To be mentioned	01 Set
	Model : To be mentioned	
	Country of Origin: To be mentioned	
	Country of Assembly **:** To be mentioned	
	45" LCD/LED TV	
	Directly communicate and customized with related equipment and device	
	Warranty 3 years with parts and labour.	
O)	**ENVIRONMENTAL MONITORING SYSTEM**	
	- Graphical User Interface (GUI) software Interface module (capable to connect up to 12 units of equipment) directly communicate with equipment (eg. UPS, CRAC, Leak detection, & etc) I/O Modules (capable to connect up to 32 nos. contact points) enables to monitor analogue/digital input points or dry contact (eg. Genset alarms, TVSS, fire alarms rectifier alarm, sub-switchboard or DB & etc) Third party Interface module (capable to connect third party equipment with MODBus & BACnet) directly communicate with equipment.(eg. DPM, Genset H.L.I,VRV & etc) Temperature / Humidity sensor Auxiliary contact at Main Switchboard/ Sub-Switchboard/ESMSB etc. Generator auxiliary contact Fire Alarm SMS Modem Software development and configuration Transformer and enclosure for all module. Site Scan installation works as per following item:- UPS power supply to I/O modules & etc. Communication cable PDU individual branch circuit monitoring c/w hardware module & cabling works. Data Center Circuits track Rack based Power, Humidity, Temperature, Smoke, Water monitor **A.** The system architecture shall consist of network interface cards that will be installed in all critical infrastructures that at a minimum support HTTP and SNMP simultaneously. **B.** The system shall receive SNMP traps from managed equipment and display the alarm notification in a graphical user interface. **C.** The system shall be based on SNMP Open Protocols **D.** Open protocol support shall include: • HTTP(s) • TCP/IP/v4, TCP/IP/v6 • SNMP v.1, SNMP v.2 **E.** The system will have the capability of being remotely monitored and managed 24 hours a day, 7 days a week by the manufacturer. **F.** The system shall have the ability to be deployed world-wide. **G.** The system shall operate as a client-to-server application. **H.** The Web interface of each managed device shall integrate directly into the system. **I.** The system shall support Enterprise level databases including Microsoft SQL™. **J.** The system shall support exporting of all recorded parametric trend data. **K.** The system shall operate on a server defined by the customer. Specific server brand or function is not permissible. **L.** The system shall support virtual server environments by default.	

The Data Centre must be designed for 24x7 operations.

07.02 Detail Specification of Data Recovery Center (DRC)

Same as Data center all servers must be deployed in Racks in Data Recovery Center. Initially we will complete 1st Phase and there will be provision for extension as 2nd Phase based on business projection. The required no. of room with approx. area including no. of RACK and Seat allocation is given below. The Tenderer may proposed better solutions based on floor spaces considering all functional unit of the DRC for smooth operation.

	1st Phase			2nd Phase		
	Bundle 1			Bundle 2		
	Approx. Area (sft)	No. of RACK	No. of Seat	Area (sft)	No. of RACK	No. of Seat
Server Room	423	08	N/A		01	N/A
Communication Room	130	02	N/A		01	N/A
Raised floor for Server and communication room	553					
Network Operation Centre (NOC)	172	N/A	04		N/A	02
DRC Operation Centre	139	N/A	04		N/A	02
Power, Fire Fighting and UPS Room	273					
Archiving Room	145	N/A	N/A		N/A	N/A
Substation Space	As required	N/A	N/A		N/A	N/A
Generator Space	-Do-	N/A	N/A		N/A	N/A
Structure caballing layout						

Proposed Data recovery Center may be at S.K Road Branch, Rupali Bank Ltd. Narayangangj. Which is located near about 16 Kilometer form proposed Data Center. So the interested tenderer are requested to visit the site with their own cost and submit the proposal for considering the same architecture and design approach of DC to perform the above area of unit. The required items for DRC are defined below. The tenderer must follow the same features and specification of Item (Except the sizing of and capacity of Substation, Generator, UPS, AVR, APC and CAC etc.) those specified in the Data center and submit the proposal.

Sl. No.	Item Name with specification	Qty
7.02.01	**DESIGN AND CIVIL WORK WITH INTERIOR DECORATION OF DRC.**	
	Dismantling Works: As specified in DC.	Approx 1500 sft
	Removing Mosaic Works: As specified in DC	Approx 2500 sft
	Construct Beam if necessary for Load bearing as per Annexure-3	As required
	Brick Works : As specified in DC	Approx 1400 sft
	Plaster Works: As specified in DC	Approx 1300 sft
	Floor Tiles: As specified in DC	Approx 2500 sft
	Skirting: As specified in DC	Approx 2500 sft
	Paint Works: As specified in DC	Approx 3000 sft
	PVC Door: As specified in DC	01 set
	Tempered Glass Door (size: 3'-0" X 7'-0"): As specified in DC	As required by the design
	Fire Rated Door (2hr rated) for DC 4' x 7'	01 set
	Fire Rated Door (2hr rated) Fire Stair Case (3' x 7') with Panic bar	01 set
	Tempered Glass Partition: As specified in DC	Approx 400 sft
	Frameless 10 mm Glass Partition: As specified in DC	Approx 900 sft
	Dry Wall : As specified in DC	Approx 700 sft
0-p	Substation and Generator Room: Grounding floor height must be out of flood range,. The sufficient Exhausting fan must be installed for sufficient air flow.	As calculated.
7. 02.02	**FURNITURE FOR DRC**	
a)	**Computer Table for DOC (4) :** Same features as defined in DC	**04 set**
b)	**Revolving Chair :** Same features as defined in DC	**04 sets**
c)	**Reception Desk :** Same features as defined in DC	**01 sets**
d)	**Wall Mounted Cabinet :** Same features as defined in DC	**As required**

7. 02.03	**Security and Environmental Monitoring Solution**	
a)	**Fire Prevention, Detection and Suppression System with necessary Equipments. :** Same features as defined in DC	01 set with necessary equipments
b)	**Water leak detection :** Same features as defined in DC	01 set with necessary equipments
c)	**Smoke Detection :** Same features as defined in DC	01 set with necessary equipments
d)	**Particle detection :** Same features as defined in DC	01 set with necessary equipments
e)	**Access control System :** Same features as defined in DC	01 set with necessary equipments
g)	**CCTV :** Same features as defined in DC	01 set with necessary equipments
7. 02.04	**Power, Cooling and Lighting System**	
a)	**Sub-Station for DRC:** Considering same features as define in DC with capacity 400 KVA and functional load 350 KVA.	01 set with necessary equipments
b)	Power load permission from PDB or Related Power Distribution Authorities.	
c)	**Generator for DRC:** Considering same features and specification as define in DC with capacity 300 KVA.	01 set with necessary equipments
d)	**UPS & Power Condition System:** Considering same features and specification as define in DC with capacity 60 KVA	03 set with necessary equipments
e)	**AVR:** Considering same features and specification as define in DC with capacity 200 KVA	01 set with necessary equipments
f)	Automatic Transfer Switch (ATS):	As required
g)	**Transient Voltage Surge Suppression (TVSS):** Same features as defined in DC	01 set with necessary equipments
h)	**Surge Protection For Lighting Arrester:** Same features as defined in DC	01 set with necessary equipments
i)	**EARTHING SYSTEM :** Same features as defined in DC	As per design consideration of the Tenderer
j)	**Structure Cabling with power Distribution. :** Same features as defined in DC	As per design consideration of the Tenderer
k)	**Lighting with Emergency Light :** Same features as defined in DC	**04**
l)	**Precision Air-Conditioning System with De-humidification System in Server & Network room**	**02**
m)	**Comport Air Conditioning System**	2 ton: 02 set 1 ton: 02 set
	De-Humidifier: Same features as defined in DC	01 sets with necessary equipments
n)	**Wall display for NOC monitoring facility:** Same features as defined in DC	01 sets
o)	**ENVIRONMENTAL MONITORING SYSTEM :** Same features as defined in DC	01

7.03 Data Communication Infrastructure Solution for DC and DRC

a. Overview

We would like to establish a new network & communication infrastructure between DC and DRC which will have proper redundancy in all possible level of the solution to ensure high availability, scalability to accommodate our business growth, also enhanced end to end security feature to protect our network from inside and outside threat.

RBL already have WAN communication Network established under BACH and ELDORADO. Under the BACH project, RBL Head office is connected to Bangladesh Bank through a pair of redundant links provided by Telnet and Brac BDMail and to 58 RBL branches through single links provided by Bangla Phone. Under the ELDORADO project, RBL Head office is connected to Brac Bank Ltd. through a pair of redundant links provided by MetroNet and Link 3 and to 103 RBL branches through single links provided by BDCOM. RBL has Cisco Routers (Cisco 3945-SEC/K9) and Cisco Firewall (ASA 5510-AIP10SP-K9) installed for these WAN links. The Tenderer,s offered design should be done considering the existing WAN links and communication hardware.

RBL would like to have an industry standard network design for the data center in terms of security, manageability, operability, reliability, availability and upgradeability. The following aspects are to be considered at the time of designing the network: **A sample networking design is given to Annexure-07.**

The network will be divided into various hierarchal areas like, Core, Distribution, Access etc. Core network will be the aggregation point for this network and distribution block will comprise with high performance switching technology.

Device level redundancy at all vital levels (which could become single point of failure for the whole system) like Core layer, distribution layer, firewall and others possible areas is required. The redundant devices should be in parallel operation all the time enhancing performance and should preferably participate in load balancing. In case of failure, seamless automatic takeover is mandatory.

Link redundancy is a must at all levels. The redundant links are required to operate in parallel for bandwidth aggregation. In case of failure, seamless automatic takeover is mandatory.

Secure solution for accessing data center resources (files, Emails and others) by authorized users from outside the RBL network as and when required. User level access should be controlled individually.

- Dedicated and redundant Dark fiber link will connect DC and DR (LAN, SAN and any other level required) for real-time replication and/or synchronization.
- All vital devices (which could become single point of failure for the whole system) should have both power supply & device level redundancy.
- Dedicated router, Firewall for internet facility in perimeter zone. A DMZ should be there for placing Email, web server etc. (depending on design provided).
- The windows active directory and network management server will be placed in Admin zone.
- There will be several service providers to provide branch level redundant connectivity.
- In all location we have chosen high performance, multi-protocol router considering amount of data processing. All modular slots can be used for any type of connection in future (Ethernet/Serial/E1).
- High Availability should be considered in each and every level of components including but not limited to router, switch, IPS etc
- Email and web security management is also part of the scope which includes email security, email encryption, anti spam, web security, web filtering etc.

a. Network Security

Security IOS has been included to provide two tier securities from Internet and to establish the VPN connection between branch offices and Data Center.

For the requirements of security we require IPSec and/or VPN connection during transmission between branches and Data Center. Hardware Based Encryption Module will maintain the performance of the router during the transmission and receiving of encrypted data. Data Center and Branches router have the Module for provide Intrusion Prevention as a level of security.

Modular IPS system with firewall is needed to continuous monitoring and protection of resources. Internal network will be protected via IPS system integrated with firewall.

Separate DMZ firewall with CSC bundle will deploy in perimeter zone to secure internet traffic.

b. Protocol Design

We need static routing protocol inside DC and dynamic routing protocol to outside DC.

To operate a high available and dynamic data center we need Enhanced Interior Gateway Routing Protocol (EIGRP) in outside data center. This protocol will be used to implement routing in data center to branch network. Any better protocol could be proposed with appropriate justification by the vendor.

In LAN STP (spanning tree protocol) will be enabled by default to build a loop free network.

Router level redundancy should be achieved through VRRP (Virtual Router Redundancy Protocol). Alternately HSRP (Hot Standby Routing Protocol) or any other better alternative could be suggested with proper justification.

c. Redundancy & High Availability

Inside DC we need Redundancy in all possible level.

In core router there will be power supply level redundancy

Distribution switch have the support of redundant power system.

In Core layer two core routers & distribution switch will provide device level redundancy.

Two server farm firewall will work as active/active or active/standby mode, design should be backed by appropriate justification.

d. Features of Server Farm

For server farm connectivity server farm switches will be connected with the distribution Switches via high speed gigabit Ethernet link. Server farm consist with all database and application server that will be accessed through intranet.
All components in Server Farm should be able to operate in 10 GB Ethernet or faster.
Server farm will be secured via Firewall from any external threat. Server farm firewall will populated with IPS module so intrusion will be prevented.
Firewall will be the gateway for all servers in server farm zone.
To access server farm from internet location VPN profile is recommended. We need encrypted VPN profile to provide secure connectivity.

e. Network Monitoring/Management Systems (NMS)

The Bidder should propose network node management software suitable to manage all the resources to be procured under the packages. The proposed software should have proven capability to perform such functionality. The bidder may propose software such as Unicenter, Tivoli, OpenView or any equivalent or better solution. In addition, the bidder should also propose necessary hardware required for the software with proper justification.

f. Structured Cabling Solution:

RBL decided to implement Systimax Structured Cabling solution capable of handling 01 Gigabit Ethernet. RBL also needs **Systimax iPatch Ready System** for Identifying and Managing the Physical Layer Connectivity in its Network.

To undertake Data Centre structured cabling necessary for system integration and overall solution as per the commercial building telecommunications cabling standards TIA-568-B.1, TIA-568-B.2, TIA-568–B.3, commercial building standard for pathways and spaces TIA-569-B, administration standard for telecommunications infrastructure of commercial buildings TIA-606-A, commercial building grounding and bonding requirements for telecommunications TIA-607 ensuring 15 (Fifteen) year Extended Product Warranty and System Assurance Warranty and certification by OEM of the structured cabling system.

Considering the above features the Tenderer must proposed the following :

Sl. No.	Item Name with specification	Qty
7.03.01	**Point To Point Dark Fiber Network Between DC & DRC**	
	Supply, install and customize of dedicated Point to pint Dark Fiber Network linewith necessary equipments between DC (located at Rupali Bank Ltd. Head office, Dhaka) to DRC (located at S.K Road Branch, Narayangonj).	**01 set**
	Minimum. 1 Mbps or higher as proposed by the Tenderer to perform smooth operation of their proposed CBS including other existing services of bank like BACH, BEFTN, EL-DORADO, ATM and Mail services act..	
	The Tenderer must submit the Valid BTRC License with latest Renewal certification form BTRC in the name link provider.	
	The link provider must have three years experience in this regard.	
	If the link provider is a partner or consortium member of the tenderer than partnership/consortium agreement must be submit with the proposal.	
07.03.02	**Redundant Point To Point Dark Fiber Network Between DC & DRC**	**01 set**
	Supply, install and customize of dedicated Point to pint Dark Fiber Network line with necessary equipments between DC (located at Rupali Bank Ltd. Head office, Dhaka) to DRC (located at S.K Road Branch, Narayangonj).	
	Minimum. 01 Mbps or higher as proposed by the Tenderer to perform smooth operation of their proposed CBS including other existing services of bank like BACH, BEFTN, EL-DORADO,	

	ATM and Mail services act. .		
	The Tenderer must submit the Valid BTRC License with latest Renewal certification form BTRC in the name of link provider.		
	The link provider must have three years experience in this regard.		
	If the link provider is a partner or consortium member of the tenderer than partnership/consortium agreement must be submit with the proposal.		
7.4.0	**LAN INFRASTRUCTURE OF HEAD OFFICE**		
	Basic Information		**400 ports**
	No. of Floor 09 (nine), Total No. of Port : 400 (approx)		
	Each Floor size maxi. 900 Square Feet.		
	No. of Port per floor is defined in **Annexure-4.**		
	The Tenderer may visit the sit with their own cost and provide Visio drawings of HS/MS LAN		
	The Tenderer may visit the site and provide Design for Network Cabling		
	Structured Network Cabling for 9 storied building		
	Cable type CAT 6		
	Cable Brand to be mentioned		
	Country of Origin of the offered cable to be mentioned		
	Fiber Optic cable for backbone and vertical wiring		
	All horizontal wiring must be terminated in patch panels located in the rack at the main interconnect device.		
	All vertical and horizontal wire management and wire identification must be installed.		
	All wire must have plastic cover with structure channel to hide patch cords.		
7.4.01	**RACK :** (Standard Rack must be offered in each floor to install necessary communication equipment.)		
	Brand : IBM/Dell/ or equivalent		**09 set**
	Model : To be mentioned		
	Country of Origin : To be mentioned		
	Country of Assembly : To be mentioned		
	Width-600mm, Height- 9U, Depth- 600 and 19" Standard		
	Front door: Glass / Vented		
	Cooling Fan: 2 pcs		
	PDU: 5 Point		
	Color: Black.		
7.4.02	**SWITCH**		**05**
	Brand	CISCO, Juniper or Equivalent	
	Model	Should be mentioned	
	Country Of origin	Should be mentioned	
	Country Of Manufacturing	Should be mentioned	
	Ports	48-Port PoE Switch	
	Performance	o Switching Fabric : Min 136 Gbps nonblocking	
		o SDRAM: Min 128 MB on board	
		o At least 101 mpps forwarding rate	
	Supported Features	• Min. 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SPF slot.	
		• 10GE uplink support	
		• The Switch should be modular multilayer switch.	
		• All ports should be POE capable	
		• Support for Redundant Power Supply	
		• IEEE 802.1Q VLAN encapsulation.	
		• Should support IPv6 forwarding and 10-Gigabit extended interfaces.	
		• STP Root Guard to protect root bridge from malicious attack or configuration mistakes.	
		• Centralized VLAN Management and support for Voice VLAN.	
		• IGMP snooping.	

		• Support for ingress and egress port monitoring.	
		• Support for the Link Aggregation Protocol (LACP).	
		• Per port quality of service (QoS) configuration and Strict priority queuing.	
		• Support for Quality of Service for Broadcast Control, Advanced classifier-based QoS, WRR, SP+WRR, Committed Access Rate (CAR) and line rate.	
		• Support for Layer 2 to Layer 4 traffic filtering; supports global ACL, VLAN ACL, port ACL, and IPv6 ACL	
		• 802.1 x user authentication (with VLAN assignment and Guest VLAN extensions).	
		• GARP VLAN Registration Protocol (GVRP) to allows automatic learning and dynamic assignment of VLANs	
		• Dynamic Host Configuration Protocol (DHCP) to simplifies the management of large IP networks; supports client; DHCP Relay enables DHCP operation across subnets	
		• Port Security, Dynamic Address Resolution Protocol (ARP) protection, IP source guard.	
		• Secure Shell (SSH) Protocol.	
		• Should have a console port and single IP address to manage all features of the system.	
		• Should have a Software configuration management, including local and remote storage.	
		• Should support Manageability through a common network management software on a per port and per switch basis,	
		• Should have support for SNMP.	
		• Remote Monitoring (RMON) software agent to support four RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis	
		• IPv6 management for future-proof networking, switch should be capable of being managed whether the attached network is running IPv4 or IPv6; supports pingv6, tracertv6, Telnetv6, TFTPv6, DNSv6, syslogv6, FTPv6, SNMPv6, DHCPv6, and RADIUS for IPv6	
		• Should support ASIC-based wire-speed network monitoring and accounting with no impact on network performance; this allows network operators to gather a variety of sophisticated network statistics and information for capacity planning and real-time network monitoring purposes.	
	Warranty	3 Years.	
7.4.03	**SWITCH**		**08**
	Brand	CISCO, Juniper or Equivalent	
	Model	Should be mentioned	
	Country Of origin	Should be mentioned	
	Country Of Manufacturing	Should be mentioned	
	Ports	24-Port PoE Switch	
	Performance	o Switching Fabric : Min 88 Gbps nonblocking	
		o SDRAM: Min 128 MB on board	
		o At least 65 mpps forwarding rate	
	Supported Features	• Min. 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SPF slot.	
		• 10GE uplink support	
		• The Switch should be modular multilayer switch.	
		• All ports should be POE capable	
		• Support for Redundant Power Supply	
		• IEEE 802.1Q VLAN encapsulation.	
		• Should support IPv6 forwarding and 10-Gigabit extended interfaces.	
		• STP Root Guard to protects root bridge from malicious attack or configuration mistakes.	
		• Centralized VLAN Management and support for Voice VLAN.	
		• IGMP snooping.	

		• Support for ingress and egress port monitoring.	
		• Support for the Link Aggregation Protocol (LACP).	
		• Per port quality of service (QoS) configuration and Strict priority queuing.	
		• Support for Quality of Service for Broadcast Control, Advanced classifier-based QoS, WRR, SP+WRR, Committed Access Rate (CAR) and line rate.	
		• Support for Layer 2 to Layer 4 traffic filtering; supports global ACL, VLAN ACL, port ACL, and IPv6 ACL	
		• 802.1 x user authentication (with VLAN assignment and Guest VLAN extensions).	
		• GARP VLAN Registration Protocol (GVRP) to allows automatic learning and dynamic assignment of VLANs	
		• Dynamic Host Configuration Protocol (DHCP) to simplifies the management of large IP networks; supports client; DHCP Relay enables DHCP operation across subnets	
		• Port Security, Dynamic Address Resolution Protocol (ARP) protection, IP source guard.	
		• Secure Shell (SSH) Protocol.	
		• Should have a console port and single IP address to manage all features of the system.	
		• Should have a Software configuration management, including local and remote storage.	
		• Should support Manageability through a common network management software on a per port and per switch basis,	
		• Should have support for SNMP.	
		• Remote Monitoring (RMON) software agent to support four RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis	
		• IPv6 management for future-proof networking, switch should be capable of being managed whether the attached network is running IPv4 or IPv6; supports pingv6, tracertv6, Telnetv6, TFTPv6, DNSv6, syslogv6, FTPv6, SNMPv6, DHCPv6, and RADIUS for IPv6	
		• Should support ASIC-based wire-speed network monitoring and accounting with no impact on network performance; this allows network operators to gather a variety of sophisticated network statistics and information for capacity planning and real-time network monitoring purposes.	
	Warranty	3 Years.	

07.5.0 Hardware for Core Banking Solution at Data Center (DC)

Following are the proposed core Application Server (hardware and operating system) platform for ensuring high-level safety, security and integrity of data and applications and underlying databases. Tenderer may propose their respective solutions based on n-tier application platform (3-tier or n-tier) keeping the following guidelines in view:

a. Database (at DC and DR sites) Platforms: 64 Bit RISC platform (or substantially equivalent or better).
b. Application Platform, which must ensure high performance, openness, functionality.
c. The OS platform in the Application Server and Database servers should be Unix of any flavor.

These servers should provide enhanced level of support for virtualization. The servers can support up to 16 or 24 dynamic domains (virtual machines). Domain partitioning granularity has been extended to one processor chip, four DIMMs, and two IO slots in extended partitioning mode.

These servers should incorporate several mainframe-class RAS features such as end-to-end ECC protection, guaranteed data path integrity, automatic recovery with instruction retry, total SRAM and register protection, ECC and Extended ECC protection for memory, memory mirroring, and predictive self-healing.

The servers should be manageable with the System Control Facility that continuously monitors the system hardware configuration and health, domain configuration and status, error monitor, and notification.

S/N	Description
1	**Database Server**
	Clustered Server of minimum 20,000 TPM for each server using offered database (64 Bit RISC or equivalent or better) at **Data Center** Server of minimum 20,000 TPM using offered database (64 Bit RISC or equivalent or better) at **Disaster Recovery Site** Test and Development Server (for Database) of minimum 15000 TPM using offered database (64 Bit RISC or equivalent or better) at **Data Center**
2	**Application Server**
	Clustered Server of minimum 20,000 TPM or tpmC using offered database (64 Bit RISC or equivalent or better) at **Data Center** Server of minimum 20,000 TPM or tpmC using offered database (64 Bit RISC or equivalent or better) at **Disaster Recovery Site** Test and Development Server (for Database) of minimum 15000 TPM using offered database (64 Bit RISC or equivalent or better) at **Data Center**

The following Specification and Required quantities are specified by the bank according to purchaser's assumption. Tenderer must properly calculate and estimate the hardware sizing with cost effectiveness to perform smooth **ONE-LINE BANKING** operation from Branches, Divisions and Control Offices considering the above features and Current **Business Dimension & Future Projection** defined in 2.2 in page no. 04 with their offered CBS. It is noted that the Control Offices will access the system only for reporting purpose. So the Tenderer must proposed the following Items with their estimated specification and quantity as format below.

07.05.0	**Hardware for Core Banking Solution at Data Center (DC)**		
07.05.01	**Development and Testing Environment**		
i.	**Application Server**		**01**
	Brand	Should be internationally reputed	
	Model	Should be mentioned	
	Country of Origin	Should be mentioned	
	Country of Manufacturing	Should be mentioned	
	Form factor/Node Type	19- inch wide Rack Mountable with rail kit-adjustable depth/Blade Architecture	
	Processor Type	64 Bit, RISC/Itanium or equivalent or better Processor	
	No of Processor	Minimum 16 Cores based on RISC/Itanium or equivalent or better Processor with highest clock speed	
	Memory (RAM)	64 GB Registered PC3-10600 DDR3 1,333 MHz ECC DIMMs memory (Minimum) with Expandability	
	Cache Memory	24MB L3 Cache (Minimum) per processor	
	System Memory Bandwidth (GB/s)	Should be mentioned.	
	System I/O Bandwidth (GB/s)	Should be mentioned.	
	Internal Hard Disk	4X 300GB 10,000 RPM (Minimum) FC/SAS/SCSI Disk Drive with Mirroring for Operating System	
	I/O Slots	Five Slots (Minimum)	
	Ethernet Port	4X 10Gb Ethernet NIC	
	Fiber Channel Adapter	Three (3) Dual Port Gigabit Fibre Channel Adapter (8Gbps) to connect the External SAN Storage & Tape Library	
	DVD ROM	DVD-ROM or equivalent any device attached by which the requirement will be fulfilled	
	Power supply	Redundant Hot Swap-plug Power Supply	
	Benchmark	Please submit the TPC or SPEC (Int & FP) or Oracle Benchmark Information on proposed model of the server	
	Operating System	Pre installed 64 Bit UNIX Operating System with CD and Manual	
	Cluster Software	Please include require Cluster Software tool of the quoted operating system for 2 node cluster	

	High availability features	- ECC protected DDR3 memory (PC3 10600 Registered memory) - Memory double chip spare to overcome two DRAM chip failures - Dynamic Processor resilience and de-allocation with Operating System	
	Authentication	Different parts of the system must be certified with brand company and should have Parts No. on each Part.	
	Warranty	3 Years	
ii.	**Database server**		**01**
	Brand	Should be internationally reputed	
	Model	Should be mentioned	
	Country of Origin	Should be mentioned	
	Country of Manufacturing	Should be mentioned	
	Form factor/Node Type	19- inch wide Rack Mountable with rail kit-adjustable depth/Blade Architecture	
	Processor Type	64 Bit, RISC/Itanium or equivalent or better Processor	
	No of Processor	Minimum 32 Cores based RISC/Itanium or equivalent or better Processor(s) with highest clock speed**.**	
	Memory (RAM)	128 GB Registered PC3-10600 DDR3 1,333 MHz ECC DIMMs memory (Minimum) with Expandability option minimum 512GB DDR3 RAM	
	Cache Memory	24MB L3 Cache (Minimum) per processor	
	System Memory Bandwidth (GB/s)	Should be mentioned.	
	System I/O Bandwidth (GB/s)	Should be mentioned.	
	Internal Hard Disk	4X 300GB 10,000 RPM (Minimum) FC/SAS/SCSI Disk Drive with Mirroring for Operating System	
	I/O Slots	Five (5) Slots or more	
	Ethernet Port	4X 10Gb Ethernet NIC	
	Fiber Channel Adapter	Three (3) Dual Port Gigabit Fibre Channel Adapter (8Gbps) to connect the External SAN Storage & Tape Library	
	DVD ROM	DVD-ROM or equivalent any device attached by which the requirement will be fulfilled	
	Power supply	Redundant Hot Swap-plug Power Supply	
	Benchmark	Please submit the Benchmark TPC or SPEC (Int & FP) or Oracle Information on proposed model of the server	
	Operating System	Pre installed 64 Bit UNIX Operating System with CD and Manual	
	Cluster Software	Please include require Cluster Software tool of the quoted operating system for 2 node cluster	
	High availability features	- ECC protected DDR3 memory (PC3 10600 Registered memory) - Memory double chip spare to overcome two DRAM chip failures - Dynamic Processor resilience and deallocation with Operating System	
	Authentication	Different parts of the system must be certified with brand company and should have Parts No. on each Part.	
	Waranty	3 Years	
iii.	**Reporting Server**		**01**
	Brand	Should be internationally reputed	
	Model	Should be mentioned	
	Country of Origin	Should be mentioned	
	Country of Manufacturing	Should be mentioned	
	Form factor/Node Type	19- inch wide Rack Mountable with rail kit-adjustable depth/Blade Architecture	
	Processor Type	64 Bit, RISC/Itanium or equivalent or better Processor	
	No of Processor	Minimum 16 Core based RISC/Itanium or equivalent or better Processor with highest clock speed**.**	
	Memory (RAM)	64 GB Registered PC3-10600 DDR3 1,333 MHz ECC DIMMs memory (Minimum) with Expandability	
	Cache Memory	24MB L3 Cache (Minimum) per processor	

	System Memory Bandwidth (GB/s)	Should be mentioned.	
	System I/O Bandwidth (GB/s)	Should be mentioned.	
	Internal Hard Disk	4X 300GB 10,000 RPM (Minimum) FC/SAS/SCSI Disk Drive with Mirroring for Operating System	
	I/O Slots	Five Slots (Minimum)	
	Ethernet Port	4X 10Gb Ethernet NIC	
	Fiber Channel Adapter	Three (3) Dual Port Gigabit Fibre Channel Adapter (8Gbps) to connect the External SAN Storage & Tape Library	
	DVD ROM	DVD-ROM or equivalent any device attached by which the requirement will be fulfilled	
	Power supply	Redundant Hot Swap-plug Power Supply	
	Benchmark	Please submit the Benchmark TPC or SPEC (Int & FP) or Oracle Information on proposed model of the server	
	Operating System	Pre installed 64 Bit UNIX Operating System with CD and Manual	
	High availability features	- ECC protected DDR3 memory (PC3 10600 Registered memory) - Memory double chip spare to overcome two DRAM chip failures - Dynamic Processor resilience and deallocation with Operating System.	
	Authentication	Different parts of the system must be certified with brand company and should have Parts No. on each Part.	
	Warranty	3 Years	
07.05.02	**Live/Production Environment**		
	Application Server (Same features as defined in Development and Testing Environment)		**02**
	Database server (Same features as defined in Development and Testing Environment)		**02**
07.05.03	**Storage Area Network (SAN)**		
i.	**External Storage System**		**01**
	Brand	Should be internationally reputed	
	Model	Should be mentioned	
	Country of Origin	Should be mentioned	
	Country of Manufacturing	Should be mentioned	
	Operating System & Clustering Support	The storage array should support industry-leading Operating System platforms including: *Windows Server 2003, Windows 2008*, Vmware, Sun Solaris, HP-UX, IBM-AIX and Linux.	
	Capacity & Scalability	**For DC:** 1. The Storage Array shall be offered with 30TB Capacity using 600GB 15krpm FC/SAS drives and 30TB Capacity using 1TB SATA drives. 2. Storage shall be scalable to minimum of 900 number of drives. **For DRC:** 1. The Storage Array shall be offered with 20TB Capacity using 600GB 15krpm FC/SAS drives and 20TB Capacity using 1TB SATA drives. 2. Storage shall be scalable to minimum of 240 number of drives.	
	Processing Power & Internal Bandwidth	1. Offered Storage architecture needs to be design in such a way so that there shall be no load on the storage CPU during Raid Parity calculations. 2. Offered storage shall have minimum Dual controller. 3. Offered storage subsystem shall be scalable to minimum internal bandwidth of 20GB/sec.	
	Architecture & Processing Power	1. For high performance and availability perspective, bidder shall ensure that each and every drive shelf is connected to separate dedicated Back-end ports. 2. Controllers shall be true active-active so that a single Logical unit can be shared by both controllers at the same time.	

	No Single point of Failure	Offered Storage Array shall be configurable in a No Single Point of configuration including Array Controller card, back-plane, Cache memory, FAN, Power supply etc.	
	Disk Drive Support	Offered Storage Array shall support 4Gbps dual-ported 300 / 600GB hot-pluggable Enterprise FC hard drives, 50GB SSD Drives along with S-ATA (1TB & 2TB) drives in the same device shelf.	
	Cache	1. Offerd Storage Array shall be given with Minimum of **32GB (DC) cache** and **08 GB (DRC) cache.** 2. Cache shall be used only for Data and Control information. OS overhead shall not be done inside cache.. 3. Cache shall be dynamically managed for Read and Write operations.	
	Raid Support & Virtualization	1. Offered Storage Subsystem shall support Raid 0, 1 , 1+0/Raid-DP, 5 and Raid 6. 2. The storage array should support virtualization at the storage controller level by ensuring that multiple different raid sets (For example Raid 1 and Raid 5) from same set of spindles simultaneously.	
	Data Protection	Incase of Power failure, Storage array shall have de-stage feature to avoid any data loss.	
	Host Ports & Back-end Ports	1. Offered Storage shall have minimum of 16 FC host ports (DC) and 08 FC host ports (DRC) for connectivity to servers 2. Each and every FC port shall be running at minimum 4Gbps speed. 3. Offered Storage System shall support mixing of FC and iSCSI ports in a native fashion. 4. Offered storage System shall have the option for two additional native IP ports for the storage based replication.	
	Ports Bandwidth	Offered storage shall be end to end 4Gbps where each drive and drive shelf shall be connected through dual active-active paths.	
	Global Hot Spare	1. offered Storage Array shall support distributed Global hot Spare for offered Disk drives. 2. Global hot spare shall be configure as per industry practice.	
	Performance	Storage shall be provided with Performance Management Software	
	Maintenance	Offered storage shall support online non-disruptive firmware upgrade for both Controller and disk drives.	
	Snapshot/Clone Copy	1. Offered Storage shall have support to make the snapshot and full copy (Clone) on the thin volumes if original volume is created on thick or vice-versa. 2. The storage array should have support for controller-based snapshots functionality for pointer-based snapshots	
	Storage Array Configuration & Management Software	Vendor shall provide Storage Array configuration and Management software.	
	Remote Replication	1. The storage array should support hardware based data replication at the array controller level across all models of the offered family.	
	Remote Replication	The storage array should be configured with storage based data replication at the array controller level across all models of the offered family. The replication should be storage based and should not be using servers to perform the task. The license should be configured for asynchronous replication mode for the entire supported capacity on the storage. The storage based replication should support one-to-one, one-to-many, many-to-one, cascading types of relationships.	
	Warranty	3 Years	
ii.	**Storage Area Network Switch**		**02**
	Brand	Should be internationally reputed	
	Model	Should be mentioned	
	Country of Origin	Should be mentioned	
	Country of Manufacturing	Should be mentioned	

	Form Factor	19 (nineteen) inch rack mountable, please specify rack unit	
	Number of ports	Minimum Forty (48) 4Gbps SW SFP Transceiver (30 port activated along with SFP transceiver from day 01).	
	Port Bandwidth	At least 8 (Eight) Gbps non blocking – higher preferable	
	Aggregate Device Bandwidth	Please specify end-to-end	
	Redundant Components	Please specify if any	
	Hot Pluggable/ Swappable Components	Please specify if any	
	High Availability	Hot code activation, single field replaceable unit etc .required – please specify	
	Security Features	Please specify	
	Manageability	Web Tools required; Please specify others	
	Software	Please specify the features of all the software in details – All the software have to be licensed for unlimited users	
	Peripherals and Accessories	All required peripherals and accessories	
	Other Features	Please mention, if any	
	Warranty	3 Years	
iii.	**Backup Server**		**01**
	Brand	Should be internationally reputed	
	Model	Should be mentioned	
	Country of Origin	Should be mentioned	
	Country of Manufacturing	Should be mentioned	
	Form factor/ Node Type	19- inch wide Rack Mountable with rail kit-adjustable depth/Blade Architecture	
	Processor Type	64 Bit, RISC/Itanium or equivalent or better Processor	
	No of Processor	Minimum 8 Core based RISC/Itanium or equivalent or better Processor with highest clock speed.	
	Memory (RAM)	16 GB Registered PC3-10600 DDR3 1333 MHz ECC DIMMs memory (Minimum) with Expandability	
	Cache Memory	24MB L3 Cache (Minimum) per processor	
	Internal Hard Disk	4X 600GB 10,000 RPM (Minimum) FC/SAS/SCSI Disk Drive with Mirroring for Operating System	
	I/O Slots	Four Slots (Minimum)	
	Ethernet Port	2X 1Gb Ethernet NIC	
	Fiber Channel Adapter	Two (2) Dual Port Gigabit Fibre Channel Adapter (8Gbps) to connect the External SAN Storage & Tape Library	
	DVD ROM	DVD-ROM or equivalent any device attached by which the requirement will be fulfilled	
	Power supply	Redundant Hot Swap-plug Power Supply	
	Benchmark	Please submit the Benchmark TPC or SPEC (Int & FP) or Oracle Information on proposed model of the server	
	Operating System	Pre installed 64 Bit UNIX Operating System with CD and Manual	
	High availability features	' - ECC protected DDR3 memory (PC3 10600 Registered memory) - Memory double chip spare to overcome two DRAM chip failures	
	Warranty	03 Years comprehensive warranty with onsite support	
	Other	If any other Hardware/Software component or equipments are required for giving the solution, please, mention and quote for the same.	
	Power consumption	Should be mentioned in each server	
	Warranty	03 Years full	

iv.	**Tape Library and Backup software**		**01**
	Brand	To be mentioned	
	Model	To be mentioned	
	Country of Origin	To be mentioned	
	Country of Assembly	To be mentioned	
	Drive Type	LTO (Ultrium) 4 or better	
	Native Data Capacity	1600 GB or more for each drive	
	Architecture	Should support Fiber Connectivity to SAN environment Capable to allow add or remove tape drives without schedule downtime.	
	No. of Drives	Minimum Four (4)	
	Removable media capacity	Minimum Sixty (60)	
	Total Storage Capacity	48 TB (native) or more	
	Interface	Fiber Channel	
	Hot Pluggability	Hot Plug Tape Drives for online repair and capacity expansion, Hot Plug Power Supply	
	Upgradability & Scalability	Modular design to allow configuration, add capacity and increase performance.	
	OS Support	64 Bit UNIX Operating System, Windows 2000 SP2, Novell NetWare 6 or Red Hat Enterprise Linux or Substantially equivalent or latest,	
	Back-up Support	Proposed Enterprise Storage Software or substantially equivalent or better	
	Form Factor	Rack Mountable	
	Tape Backup Software	Tenderer should provide Backup Management Software Manager with 1. Online real time Data Backup Agents 2. Online real time Database Backup Agents 3. Online real time File Backup Agents 4. Online real time Email Backup Agents Backup software should provide the facility to instruct branch servers for backup in their tape cartridges. Tape Backup software is required for Data Centre and Disaster Recovery Site	
v.	**Tape Cartage**		**210**
	Brand	Should be mentioned	
	Model No.	Should be mentioned	
	Recording Technology	LTO-5 Ultrium	
	Capacity	3.0 TB Compressed 2:1	
	Read Speed	280 MB/sec Maximum	
	Media Durability	1,000,000 passes on any area of tape, equates to over 20,000 end to end passes/260 full tape backups	
	Archival Storage Life	30 yrs or above	
	Country of origin	Should be mentioned.	
	Country of Assemble	Should be mentioned	
06.05.05	**Network Devices**		
i.	**Core Router**		02
	Brand	CISCO/Juniper or equivalent	
	Model	To be mentioned by the tenderer	
	Country of origin	To be mentioned	
	Country of manufacturer	To be mentioned by the tenderer	
	Product part no.	To be mentioned by the tenderer	

	Architecture	Should support Voice and Data Services, Security and mobility services. Modular Chassis with minimum 4 I/O slots Support for complete Firewall, IPS features. Rack Mountable	
	Power Supply and Fan	Dual Redundant (1+1) Power Supplies and Fans	
	Interface Modules	10 x 100BASE-T RJ45 Transceiver Should have minimum two SFP-base ports **Number of ports & Types must match bidders proposed solution**	
	Interface Support	T1, E1, Fast Ethernet, Synchronous Serial, ISDN BRI, ADSL2/ADSL2+, G.SHDSL, DS3, E3, Gigabit Ethernet interfaces	
	Throughput	Minimum .5 Gbps	
	Forwarding Rate	Minimum 1000 Kpps	
	VLANs	1024	
	Feature	Support for 1000BaseT, 1000BaseSX and 1000BaseLX/LH	
		Redundant Power Supply from day 1.	
		Should support for IPv6	
		RJ-45 console port.	
		For IP Routing the Router should have support for Static, RIP v2, OSPF, IS-IS, BGP.	
		Should support for IPv6 routing for OSPF.	
		Standard and extended ACLs or Similar Feature on all ports.	
		Should support IP Multicast.	
		Should support Data, Voice & Video Traffic	
	High Availability features	• Shall support Equal-cost routing for load balancing and redundancy • Shall support fast reboot for minimum network downtime. • Shall support Non-Stop forwarding for fast re-convergence of routing protocols • Shall support boot options like booting from TFTP server, Network node and Flash Memory • Shall support multiple storage of multiple images and configurations • Shall support link aggregation using LACP as per IEEE 802.3ad • Shall support VRRP or equivalent	
	Required Protocol and Standards Support	• IEEE 802.1Q, 802.1D, 802.3ad, 802.1w, 802.1s. • 1000BASE-X (SFP), 1000BASE-SX, 1000BASE-LX/LH. • RMON I and II standards. • SNMPv1, SNMPv2c, SNMPv3. • IGMP v1/v2/v3 • IGMP Snooping • RIP • Should Support BGPv4, OSPF. • Should Support IPv6. • QoS: Should support control plane policing. • Should support dynamic routing protocols like RIP, OSPF, BGP and multicast technologies like PIM-SM. Should support IGMP-v1, v2 and v3.	
	Required Security Features	• IEEE 802.1x. • Support for Remote Authentication Dial-In User Service (RADIUS). • Rate limiting Committed Information Rate (CIR) function. Through CIR, bandwidth should be guaranteed in increments as low as 8 kbps. Bandwidth should be allocated based on several criteria, including MAC source address, IP souce address, IP destination address and TCP or UDP port number.	

	Required Management Features	• Support Web View, Telnet, SNMP, Console, RMON, CLI, Remote Monitoring (RMON) with 4 RMON groups (history, statistics, alarms and events) • IEEE 802.1s, IEEE 802.1w, IEEE 802.1x, IEEE 802.3ad, IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX and 1000BASE-T ports. • IEEE 802.1D Spanning-Tree Protocol. • IEEE 802.1Q VLAN • Should have to support Out of band management through Console and an external modem for remote management. • Event and System logging: Event and system history logging functions shall be available. The Router shall generate system alarms on events. Facility to put selective logging of events onto a separate hardware here the analysis of log shall be available. • Pre-planned scheduled Reboot Facility: The Router shall support the preplanned timed reboot to upgrade their hardware to a new software feature and plan the rebooting as an off-peak time	
	Performance	• Shall support performance of minimum 1000 kbps for 64 Byte packets. • Shall support variety of interfaces like V.35 Sync Serial (64Kbps, 2 Mbps), G.703, Ch-E1for future uplink purposes, Ethernet Interfaces – 1Gbps, 10/100 Mbps, 802.3af, ISDN PRI, BRI, ATM, Digital/Analog dialup and remote access modules, • Shall support DSL connectivity using ADSL, G.SHDSL • Shall support management of power to module slots, to reduce energy consumption	
	Debug, alarms & Diagnostics	• Support for monitoring of Traffic flows for Network planning and Security purposes • Trace-route, Ping and extended Ping • Should support extensive support for SLA monitoring for metrics like delay, latency, jitter, packet loss. • Shall support embedded event manager that enables automation of many network management tasks and directs the operation of router OS to increase availability, collect information, and notify external systems or personnel about critical events	
	Accounting	• The router should have following accounting features: • Packet & Byte Counts • Start Time Stamp & End Time Stamps. • Network Time Protocol • Input & Output interface ports. • Type of service, TCP Flags & Protocol • Source & Destination IP addresses • Source & Destination TCP/UDP ports	
	Warranty	At least 3 years on site with full labour, parts & replacement.	
ii.	**DMZ/ Internet Router**		02
	Brand	Should be internationally reputed	
	Model	Should be mentioned	
	Part / Product No	Should be mentioned	
	Country of Origin	Should be mentioned	
	Router Architecture	Should support converged networking through the use of embedded and integrated hardware-based encryption and voice processing capabilities.	
		Encryption acceleration capabilities should ensure security without compromising network throughput as performance needs increase	
		Modular, Multi-Service Architecture	
		Should support Voice and Data	
		Should support VRRP	
		Should have integrated Advanced Encryption Hardware Accelerator	
		Should have minimum 4 Interface Slots	

	Memory	Minimum 256 MB DDR SDRAM upgradable 512 MB	
	Compact Flash Memory	Minimum 512 MB upgradable to 1 GB	
	Fixed Interface	Min. 2 10/100/1000 Mbps Ethernet	
	Interface Modules	4 x 10/100/1000 Mbps Ethernet port	
	Interface Support	FE, GE, Serial, ADSL,E1, T1	
	Wireless access support	Should support 3G broadband bridging, access point	
	USB Interface	2	
	Forwarding Performance	Minimum 350 Kpps	
	Switching paerformance	180 Mbps	
	Layer 2 protocol	IEEE 802.1D Spanning Tree	
		IEEE 802.1w RSTP	
		IEEE 802.1s MSTP	
		IEEE 802.1Q	
		IEEE 802.1x	
		IEEE 802.3	
		IEEE 802.1p	
		IGMP snooping	
		Mirroring	
	Layer 3 Protocols	Comprehensive IPv4 and IPv6 routing capabilities	
		Static, RIP v1 and v2, OSPF, OSPFv3, BGP, IGMP, PIM-DM, PIM-SM	
		Policy Routing	
		PPP and Multilink PPP (MP)	
		PPPoE	
		Frame Relay	
	IP services	TCP, UDP, ARP, Policy-based routing (unicast/multicast), DHCP server, relay, and client	
		OSPFv3 for IPv6	
		BGP	
		QoS	
	MPLS	should be mentioned	
	Encryption Method	DES, 3DES	
	QoS	Marking, Policing	
		Queuing with prioritization	
		WRED	
	Security	PPPoE, IEEE 802.1X	
		RADIUS, RSA, LDAP	
		Access Control Lists (ACL), Filtering	
		IKE, IPSec	
		NAT/NAPT, PKI, SSH v2	
	Management & maintenance	Configuration through the CLI, Console Port	
		SNMP v1, v2c, v3, Standard and enterprise MIBs, Telnet, SSH, Syslog, RMON	
	EMC Compliance	FCC Part 15 (CFR 47) Class A	
	Safety Compliance	UL 60950-1: 2003	
	Warranty	3 Years	

iii.	**Core Switch**		02
	Brand	CISCO/Juniper or equivalent	
	Model	To be mentioned by the tenderer	
	Country of origin	US/EU or equivalent	
	Country of manufacturer	To be mentioned by the tenderer	
	Product part no.	To be mentioned by the tenderer	
	Architecture	=>The switch should be a chassis based high performance Layer 2, Layer 3 and Layer 4 switch: 01 Chassis =>Minimum no of slots: 09 or Higher =>Aggregate bandwidth in a single chassis: 700 Gbps or Higher =>Aggregate throughput at Layer 2, Layer 3 and Layer 4: Up to 380 Million pps or Higher =>CPU slot: Redundant N+1 =>Power supply: Redundant N+1 For DC (primary site) A1 x 24-Port 10/100/1000BASE-T fiber Ethernet Modules (must be at least four copper modules and 18 multimode fiber SFP module loaded from day 01.) B 4-Port 10GBase fiber Ethernet card/ Module with XFP Transceiver (SR- multi mode fiber) (all loaded from day 01) [For : DRC (backup site): 48 port 1000BASE-T RJ 45 copper port based non blocking switching module.] =>Flash memory: 01 GB or Higher =>RAM/ DRAM: 01 GB or Higher =>Fans: Redundant N+1 Application and Server Load Balancing module with performance of 4Gbps or separate appliance capable of 4Gbps or higher throughput should be quoted. =>Hot swappable chassis Components such as power supply and interface modules =>Support for 2000 Active VLANs. =>Should have support for Ipv6 =>RJ-45 console port. =>The switch should have a non-blocking architecture	
	High Availability features	=>Gateway Load Balancing Protocol =>VRRP =>Rapid Spanning Tree Protocol (RSTP) =>Multiple Spanning Tree Protocol (MSTP) =>Per-VLAN Rapid Spanning Tree =>Rapid convergence Layer 3 protocols =>Equal-cost routing for load balancing and redundancy	
		=>Support for Centralized VLAN Management so that the administrator can make configuration changes centrally on one or more switches and have those changes automatically communicated to all the other switches in the network. Thus, addition, deletion, and renaming of VLANs in every switch in the network is not required. Changes made to the VLANs in one switch (Server) replicates the VLAN information to all other switches in the network.	
		=>For IP Routing the switch should have support for Static, RIP v1, RIP v2, OSPF, IS-IS, BGP. =>Should have support for Ipv6 from Day1. =>Should have support for IPv6 routing for RIP, OSPF =>Standard and extended ACLs on all ports =>Switch should support a module, which helps securing traffic with SSL or separate applience. =>Should support IP Multicast	

		=>IEEE 802.1x with voice VLAN feature should be there, this would permit an IP phone to access the voice VLAN irrespective of the authorized or unauthorized state of the port. =>The switch should have support for features which uses the network infrastructure to enforce security policy compliance on all devices seeking to access network computing resources, thereby limiting damage from emerging security threats such as OS vulnerability, viruses, worms, and spy ware. This feature can allow network access only to compliant and trusted endpoint devices (PCs, laptops, servers, and PDAs, for example) and can restrict the access of noncompliant devices, thereby maintaining the security posture of the entire networked environment.	
	Required VLAN/Spanning Tree support	=>The switch should support 802.1Q VLAN support =>The switch should support 802.1Q tag per port =>The switch should support 802.1Q VLAN trunking =>The switch should support MAC-based VLANs =>The switch should have support for 802.1p =>The switch should support Integrated Routing and Bridging	
	Required Protocol and Standards support	=>IEEE 802.1Q, 802.1p, 802.1D, 802.3x, 802.3ad, 802.1w, 802.1s. =>IEEE 802.3u 100BASE-TX specification. =>IEEE 802.3ab 1000BASE-T specification. =>IEEE 802.3z 1000BASE-X specification. =>1000BASE-X (SFP), 1000BASE-SX, 1000BASE-LX/LH, 1000BASE-ZX. =>RMON I and II standards. =>SNMPv1, SNMPv2c, SNMPv3. =>IGMP v1/v2/v3 =>IGMP Snooping =>RIP v1/v2 =>Should be upgradeable to BGPv4, OSPF. =>IPv6 in Hardware. =>QoS: Should support SRR (Shaped Round Robin) =>QoS: Should support control plane policing. =>Should support auto configuration of POE/ IEEE 802.3af enabled endpoint devices. =>802.1x= Should support 802.1x for guest VLAN as well Dynamic VLAN assignment. =>Should support dynamic routing protocols like RIP, OSPF, BGP and multicast technologies like PIM-SM, PIM-DM. Should support IGMP-v1, v2 and v3	
	Required Security features	=>IPv6-routing in hardware with MAC address notification & MAC address Locking. =>DHCP interface tracker, Security wizard, Access control lists, Private VLAN edge. =>Port security, SNMPv3, SSH, VLAN ACLs (VACLs) and Port-based ACLs (PACLs). =>Switched Port Analyzer (SPAN) with 802.1x Port based network access control. =>IEEE 802.1x with VLAN assignment allows a dynamic VLAN assignment for a specific user regardless of where the user is connected. =>Bridge Protocol Data Unit (BPDU) and Spanning Tree Root Guard (STRG). =>VLAN Membership Policy Server (VMPS) & 1000 access control entries (ACEs). =>Support for Terminal Access Controller Access Control System Plus (TACACS+) and =>Remote Authentication Dial-In User Service (RADIUS). =>Rate limiting Committed Information Rate (CIR) function. Through CIR, bandwidth should be guaranteed in increments as low as 8 kbps. Bandwidth should be allocated based on several criteria, including MAC source address, MAC destination address, IP source address, IP destination address, and TCP or UDP port number	

	Required Management features	=>Support Web View, Telnet, SNMP, Console, RMON, CLI, Remote Switch Port Analyzer (RSPAN), Remote Monitoring (RMON) with 4 RMON groups (history, statistics, alarms, and events). =>IEEE 802.1s, IEEE 802.1w, IEEE 802.1x, IEEE 802.3ad, IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX, and 1000BASE-T ports. =>IEEE 802.1D Spanning-Tree Protocol, IEEE 802.1p CoS Prioritization. =>IEEE 802.1Q VLAN and IEEE 802.3 10BASE-T specification. =>Free, Web based Network Management Software	
	Warranty	At least 3 years on site with full labour, parts & replacement.	
iv.	**Core Firewall**		02
	Brand	CISCO/Juniper or equivalent	
	Model	To be mentioned by the tenderer	
	Country of origin	US/EU or equivalent	
	Country of manufacturer	To be mentioned by the tenderer	
	Product part no.	To be mentioned by the tenderer	
	Interface Requirement:	=> 4 Gigabit & 1 Fast Ethernet All required/supported modules, cards, parts, features; software should be from same original equipment manufacturer (OEM). At least 4 10/100/1000BASE-T Interfaces At least 2 x1000BASE-X (with SX Transceiver)	
	Memory	=>Flash: Minimum 64 MB Min Memory : 256 MB	
	Performance	=>Maximum Firewall Throughput: 05 Gbps =>Concurrent session: 1 million =>High Availability: Active/Active, Active/Standby =>DRAM: 512 MB =>Virtual LAN: 150 =>VPN clustering and load balancing: yes =>Management: Web-based management interface & console Users/Nodes: Unlimited IEEE 802.1Q VLAN support, VLANs: 4000 Encryption: DES, 3DES, AES	
	Warranty	At least 3 years on site with full labour, parts & replacement.	
v.	**IPS for Data center**		02
	Brand	Should be internationally reputed	
	Model	Should be mentioned	
	Part / Product No	Should be mentioned	
	Country of Origin	Should be mentioned	
	Architecture	Proactive Network Security	
		Stateful detection and prevention	
		High Availability (HA) option (bypass)	
		Dual Redundant Power Supplies	
	Inspected Throughput	600 Mbps	
	Concurrent Sessions	60000 and above	
	Management Interfaces	1 x 10/100 Ethernet	
	Interface ports	6 x 10/100/1000 Ethernet	
	Attack Filter Categories	Worm	
		Phishing	
		Spyware	
		Virus	
		DDoS	
		Trojan	

		Bandwidth Hijacking	
		P2P	
		Walk-in Worm	
		Blended Threat	
		VoIP	
		Backdoor	
		Zero Day Initiative	
		OS Vulnerabilities	
	Operational Features	Need to operate in-line in the network	
		Protecting from external as well as internal threats	
		Able to block malicious and unwanted traffic	
		Able to prioritize applications that are mission critical	
		Able to block attacks at multi-gigabit speeds with extremely low latency	
		Able to perform without degrading network performance	
		Able to perform thousands of checks on each packet flow simultaneously	
		Able to perform total packet flow inspection at Layers 2-7	
		Able to do traffic classification	
		Able to do rate shaping	
		Algorithm should allow automatic thresholds and throttling. so that mission critical applications are given a higher priority on the network.	
		Able to protect network infrastructure by blocking attacks against routers, switches, DNS and other infrastructure equipment	
		Should have measure for protection against new threats before vulnerabilities are disclosed to the public (Zero day initiative)	
		Should have statistical, protocol and application anomaly protection to protect against traffic surges, buffer overflows, unknown attacks and unknown vulnerabilities	
		Should deliver traffic normalization to eliminate malformed or illegal packets, and performs TCP reassembly and IP de-fragmentation	
		Able to conserve bandwidth and server capacity to provide complete application protection by rate limiting or blocking unwanted traffic	
		Quarantine protection	
		Able to provide attack isolation and network discovery of vulnerable devices	
	Protocols/ Applications	IP, VLAN, IMAP, TCP, RPC, OSPF, ICMP, HTTP, FTP, Telnet, SMTP, UDP	
	High Availability	VRRP	
		Layer 2 Fallback	
		High Availability/ Traffic passing ability in the event of power loss	
		Fault Tolerant Configurations	
	System Management	CLI, Web, HTTP, HTTPS, able to manage multiple systems	
	Security Certification	Common Criteria EAL2	
	Safety	UL60950 , CSA 22.2-60950, EN60950	
	Immunity	EN-55024	
	EMI	EN 55022 Class A, EN61000, FCC Part 15, VCCI	
	Warranty	3 Years	
vi.	**Server Farm and DMZ Switch**		04
	Brand	CISCO/Juniper or equivalent	
	Model	To be mentioned by the tenderer	
	Country of origin	US/EU or equivalent	
	Country of manufacturer	To be mentioned by the tenderer	
	Product part no.	To be mentioned by the tenderer	

		• 48 Ethernet 10/100/1000 ports and 2x10G port with Fiber Module.. (server farm 02 qty) • 24 Ethernet 10/100/1000 ports and 2x1GE port (DMZ 02 Qty)	
	Performance	=>Switching Fabric : Min 128 Gbps =>DRAM: Min 128 MB =>Flash: Min32 MB =>Total VLANs:1005 =>VLAN IDs: 4K =>Jumbo Frame: 9000 Byte =>At least 47 mpps forwarding rate =>Configurable up to 8000 MAC addresses	
	Layer-3 features	=>Basic IP unicast routing protocols (static, RIPv1, and RIPv2) should be supported =>Future support for IPv6 unicast routing capability (static, RIP, and OSPF protocols) with IPv6 traffic through configured interfaces. =>Future support for advanced IP unicast routing protocols (OSPF, and Border Gateway Protocol Version 4 [BGPv4]) for load balancing and constructing scalable LANs. =>Future support for policy-Based Routing. =>Inter-VLAN IP routing should be supported for Layer 3 routing between two or more VLANs. =>Future support for protocol Independent Multicast (PIM) for IP Multicast routing, including PIM sparse mode (PIM-SM), PIM dense mode (PIM-DM), and PIM sparse-dense mode.	
	Layer-2 features	=>IEEE 802.1Q VLAN encapsulation. Up to 1000 VLANs should be supported. Support for 4000 VLAN IDs. =>Support for Voice VLAN which will simplify telephony installations by keeping voice traffic on a separate VLAN for easier administration and troubleshooting. =>Centralized VLAN Management. VLANs created on the Core Switches should be propagated automatically. =>Spanning-tree Enhancements for fast convergence =>IEEE 802.1d, 802.1s, 802.1w, 802.3ad =>Spanning-tree feature to prevent other edge switches becoming the root bridge. =>Future Support for IGMP snooping, Support for up to 1000 IGMP Groups. Support for IGMP filtering. =>Link Aggregation Protocol (LACP) =>Support for Detection of Unidirectional Links (in case of fiber cut) and to disable them to avoid problems such as spanning-tree loops. =>The Switch should be able to discover the neighboring device giving the details about the platform, IP Address, Link connected through etc, thus helping in troubleshooting connectivity problems. =>Per-port broadcast, multicast, and storm control to prevent faulty end stations from degrading overall systems performance. =>Local Proxy Address Resolution Protocol (ARP) to work in conjunction with Private VLAN Edge to minimize broadcasts and maximize available bandwidth. =>Support for Multicast VLAN registration (MVR) to continuously send multicast streams in a multicast VLAN while isolating the streams from subscriber VLANs for bandwidth and security reasons.	

	Network Security features	=>Support for mechanisms to improve the network's ability to automatically identify, prevent, and respond to security threats and also to enable the switches to collaborate with third-party solutions for security-policy compliance and enforcement before a host is permitted to access the network. Thus preventing the spread of Viruses & worms. =>Support for IEEE 802.1x to allow dynamic, port-based security, providing user authentication. =>Port-based ACLs for Layer 2 interfaces to allow application of security policies on individual switch ports. =>Support for SSH and SNMPv3 to provide network security by encrypting administrator traffic during Telnet and SNMP sessions. =>Bidirectional data support on the Mirrored port to allow the intrusion detection system (IDS) to take action when an intruder is detected. =>RADIUS authentication to enable centralized control of the switch and restrict unauthorized users from altering the configuration. =>MAC address notification to allow administrators to be notified of users added to or removed from the network. =>DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addresses. This can be used to prevent attacks that attempt to poison the DHCP binding database, and to rate-limit the amount of DHCP traffic that enters a switch port. =>Port security to secure the access to an access or trunk port based on MAC address. =>Multilevel security on console access to prevent unauthorized users from altering the switch configuration using local database or through an external AAA Server. =>Spanning tree feature to shut down Spanning Tree Protocol enabled interfaces when BPDU's are received to avoid accidental topology loops. =>Quality of Service (QoS) & Control =>Standard 802.1p CoS and DSCP =>Control- and Data-plane QoS ACLs =>Four egress queues per port to enable differentiated management of up to four traffic types across the stack. =>Weighted tail drop (WTD) or equivalent to provide congestion avoidance =>Strict priority queuing mechanisms =>There should not be any performance penalty for highly granular QoS functions. =>Future support for feature which will provide rate limiting based on source and destination IP address, source and destination MAC address, Layer 4 TCP and UDP information, or any combination of these fields, using QoS ACLs (IP ACLs or MAC ACLs), class maps, and policy maps. =>Up to 64 aggregate or individual polices should be available per Fast Ethernet or Gigabit Ethernet port.	
	Management	=>Superior manageability Features =>Command Line Interface (CLI) support for configuration & troubleshooting purposes. =>For enhanced traffic management, monitoring, and analysis, up to four RMON groups (history, statistics, alarms, and events) must be supported. =>Layer 2 trace route to ease troubleshooting by identifying the physical path that a packet takes from source to destination. =>Domain Name System (DNS) support to provide IP address resolution with user-defined device names. =>Trivial File Transfer Protocol (TFTP) to reduce the cost of administering software upgrades by downloading from a centralized location. =>Network Timing Protocol (NTP) to provide an accurate and consistent timestamp to all intranet switches. =>SNMP v1, v2c, and v3 and Telnet interface support delivers comprehensive in-band management, and a CLI-based management console provides detailed out-of-band management. =>SNMPv1, SNMPv2c, and SNMPv3	

	Regulatory and Compliance	=>Safety: UL 60950-1, CAN/CSA-C22.2 No. 60950-1, EN 60950-1, IEC 60950-1, CCC =>EMI and EMC: FCC Part 15 (CFR 47) Class A, ICES-003 Class A, EN 55022 Class A, CISPR 22 Class A, AS/NZS 3548 Class A, BSMI Class A, VCCI Class A, EN 55024, EN300386, EN 50082-1, EN 61000-3-2, EN 61000-3-3, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN 61000-6-1	
	Power	=>AC input voltage: 100 to 240 VAC, =>AC input frequency: 47 to 63 Hz	
	Mechanical and Environmental	=>Rack height: 3 RU =>Rack-mount 19in. (48.3 cm) EIA: To be included =>Airflow: Back to front =>Operating Temperature: 32 to 104ºF (0 to 40ºC) =>Relative humidity: 5 to 85% =>Nonoperating Temperature: -40 to 158ºF (-40 to 70ºC)	
vii.	**Internet Firewall with Content Security**		02
	Brand	Should be internationally reputed	
	Model	Should be mentioned	
	Part / Product No	Should be mentioned	
	Country of Origin	Should be mentioned	
	Architecture	Proactive Network Security	
		Centralized Enterprise Management	
		Supports Both Active-Active and Active-Passive mode	
		Dual Redundant Power Supplies	
	Firewall Throughput	450 Mbps	
	Total Sessions	250000	
	Connections Per Second	15000	
	Interface ports	4 x 10/100/1000 Ethernet	
	Content Security	Antispyware	
		Anti-adware	
		Anti-keylogger	
		Instant message AV	
		Antispam	
		Antivirus	
		Integrated URL filtering	
		External URL filtering	
	Features	The Firewall should be an appliance based firewall	
		Firewall should be on purpose built hardware platform and should not use any of the commercially available Operating system	
		Integrated Hardware based encryption.	
		Firewall should support static NAT, Policy based NAT and PAT	
		Firewall should be capable minimum 1000 Concurrent VPN tunnels	
		Firewall should be capable of Dynamic routing on VPN	
		Firewall should support DES (56-bit), 3DES (168-bit) and AES encryption	
		Firewall should support client based IPSec VPN Tunnels	
		Firewall should be able to prevent against replay attacks	
		Firewall should support IPSec NAT Traversal	
		Support for Standard Access Lists and Extended Access Lists or similar feature to provide supervision and control.	
		Controlled SNMP Access.	
		Should support Data, Voice & Video Traffic	
		Control SNMP access through the use of SNMP with MD5 authentication.	

		Implement Access Lists on the router to ensure SNMP access only to the SNMP manager or the NMS workstation.	
		Support for Full UTM (AV, AS, & WF) Security Subscription License (1000 User) from Day 1.	
		IPSec, DES, 3DES and AES Support from Day 1.	
		Multiple Privilege Levels.	
		Support for Remote Authentication Dial-In User Service (RADIUS).	
		MD5 Route Authentication.	
	dataSystem Management	CLI, Web, HTTP, HTTPS, able to manage multiple systems	
	Safety	UL1950 (1200E, 2400E), UL60950 (600E, 1200E, 2400E, 5000E) Standard for Safety of Information Technology Equipment, CSA 22.2-60950, EN60825: Safety of Laser Products, EN60950, IEC60950, ROHS Compliance	
	Immunity	EN-61000-3-2: Harmonic Emissions EN-61000-3-3: Voltage Fluctuations and Flicker EN-61000-4-2: ESD Immunity EN-61000-4-3: Radiated Immunity EN-61000-4-4 EFT: Burst Transients EN-61000-4-5: Surge Protection EN-61000-4-6: Injected RF EN-61000-4-11: Dips and Sags	
	Emissions	FCC Class A: Regulations for Radio Frequency Devices for Electromagnetic Compliance, ICES-003, Class A, EN 55022 Class A, VCCI Class A, AS/NZS-3548 Class A	
	Warranty	3 Years	
viii.	**Load Balancer**		01
	Hardware	Load Balancer should be a high performing Quad Core appliance with dual power default	
		The appliance should have minimum 4 GB RAM	
		The appliance should have default throughput support for 4 Gbps	
	Load balancing Features	The appliance should support layer 2 to layer 7 load balancing algorithm with persistent session support to 8 Million	
		The appliance should support load balancing algorithm like persistent ip, redirect, static, QOS client port, round robin, shortest response, least connections, cookie, header and session based	
		The appliance should support transparent, proxy and triangular mode operations	
	Load balancing algorithms:	Round Robin - Weighted Round Robin Least Connection - Weighted Least Connection Random - Weighted Random Source IP-Hash - Source IP-Port-Hash Destination IP-Hash - Best-Performing Link Bandwidth - HTTP Content RTSP	
	Link Load balancing	Inbound and Outbound	
	Security	ACL, NAPT, PAT, NAT Server, Port mapping, DNS Query Flood, SYN Flood, ICMP Flood, UDP Flood, IP, Spoofing, Hotfix, standard Radius	
	Warranty	3 Years	
	Security Manager Software:		
	Country of manufacturer	To be mentioned by the tenderer	
	Product part no.	To be mentioned by the tenderer	

	General Specification	The Proposed Security Management System must combine Web-based tools for configuring, monitoring, and troubleshooting: • VPNs • Firewalls • Network Intrusion Prevention Systems (IPSs) • Host-based Intrusion Prevention Systems (IPSs) • Router-based IPSs	
		The Security Management system should support 100 devices and should be upgradeable to 250 devices.	
		Security Management System must enable to deploy security infrastructures using the following features: • Integrated management –Must manage both the security infrastructure and the network infrastructure. It should deliver integrated monitoring of firewalls, Router Software, network-based IPSs, and host-based IPSs, along with event correlation. It should allow to manage these components through one solution. • Scalable foundation –The Security Management System must provide a foundation that makes it easy to scale management to many devices. It should provide users with a consistent GUI to reduce learning time, workflow to allow multiple administrators to work together and coordinate tasks, access control server integration to precisely control access, support for Windows and Solaris platforms, use of a robust database engine, a new simplified installation, and more. It should provide Auto Update feature, which allows numerous devices to be updated easily and quickly. Auto Update to enable devices, even remote and dynamically addressed devices, to periodically "call home" to an update server and pull the most current security configurations –Auto Update to effectively scale remote-office firewall deployments across intermittent links or dynamic addresses. This feature should avoid a manual process required to update each remote device. It must provide a dramatic scalability improvement for the organization to deploy devices with many remote and local locations. • Consistent implementation of corporate security policy The Security Management System must enable organization to easily implement corporate security policies across several locations. The solution must includes workflow processes for generating, approving, and deploying configurations. This will help the organization's delegate tasks to different administrators while still functioning as a team. It is particularly for the organization having separate groups for network and security operations. An audit of the changes must be maintained. • Centralized role-based access control (RBAC) The management software must allow RBAC and enable groups to have different access rights across different devices and applications, providing precise and secure control.	

	Features required:	Firewall Management – • The Security NMS provides coverage for centralized management of proposed firewalls. Using Smart Rules, the user must able to configure a common rule (such as allowing all HTTP traffic) one time and can apply this rule globally to all firewalls. The software must support an extensive list of device settings, all of which can be defined globally and inherited by all applicable firewalls. – Configuration Update Server for Firewall Management – • It must allow firewalls periodically and automatically to contact the update server for any security configuration. Network-Based IPS and Router-Based IPS Management – • To configure network IPS and router-based IPS. Many IPS sensors must be configured quickly using group profiles. Additionally, a powerful signature management feature must be there to increase the accuracy and specificity of detection. – • Hierarchical configuration for signatures, allowing group and global policy changes with minimal keystrokes. Host IPS Management – • It must deliver management for Host IPS that protect servers and desktops, also known as "endpoints". The management solution is scalable to thousands of Host IPS agents to support complete organization deployments. VPN Router Management – • The NMS must include functions for the setup and maintenance of large deployments of VPN connections and provides users with a point-and-click interface for setting up and deploying connections. This is for scalable configuration of site-to-site VPN connections in a hub-and-spoke topology for centralized, multi-device configuration and deployment of Internet Key Exchange (IKE) and IP Security (IPSec) tunneling policies on VPN routers. Security Monitoring – • It must provide integrated monitoring to minimize the number of security monitoring consoles required. – • The software must increase the accuracy of threat detection, lower the operational costs for event monitoring, The software must delivers event correlation to identify attacks that are not easily recognizable from a single event, a flexible notification scheme, and automated responses to critical events. – • It must also offer a Security Device Event Exchange (SDEE) server through which other management systems may retrieve security events. – Performance Monitoring – • The NMS must provide improved functions for monitoring and troubleshooting the performance of services that contribute to enterprise network security. The software should enable users, without requiring expertise with IPSec or other security technologies, to increase service availability by isolating and troubleshooting significant events in their networks as they occur	
	Warranty	At least 3 years on site with full labour, parts & replacement.	
ix.	**Rack with PDU and KVM**		10
	Server Rack	Brand : To be mentioned	
		Model : To Mentioned	
		Country of Origin : To be mentioned	
		Country of Assembly: to Be mentioned	
		Width-600mm, Height- 42U, Depth- 1000 and 19" Standard	
		Front door: Vented Door	
		Back Door: Vented panel	
		Side Panel: Removable, Solid with Lock	
		Cooling Fan: 4 pcs	
		PDU: 6 Point Vertical 4 Nos	

		Minimum 16 Power outlet	
		Maximum Power consumption: 8KW per Rack	
		Fix tray: 2 nos	
		Sliding Tray: 1 Nos	
		Heavy-duty Castor: 4 pcs	
		Color: Black.	
		Console: 1U LCD Monitor Console, IP KVM and 8 Port Switch	
		Power distribution channels shall allow tool less mount on zero U space to avoid cable conjunction inside the Rack	
x.	**Entrance Room Rack for ISPs**		01
		Brand : To be mentioned	
		Model : To Mentioned	
		Country of Origin : To be mentioned	
		Country of Assembly: to Be mentioned	
		Width-600mm, Height- 9U, Depth- 600 and 19" Standard	
		Front door: Glass / Vented	
		Cooling Fan: 2 pcs	
		PDU: 5 Point	
		Color: Black.	

07.05.06 Hardware for Office Automation at Data Center (DC)

For RBL automation, access control, security/access control and smooth operation of the Information and Communication system, following hardware (Server) will be necessary to be provided by the Tenderer. Tenderer should propose appropriate design and documentation for implementation and successful operation of these equipments. Tenderer may propose Server Consolidation/Virtualization in their design, in that case that should be supported by proper justification.

07.05.06	**Hardware for Office Automation at Data Center (DC)**		
a.	**File Server.**		01
	Brand	HP/DELL/IBM or Equivalent	
	Model.	To be mentioned	
	Country of Origin	To be mentioned	
	Country of Assembly	To be mentioned	
	Chassis	Rack mount with the Rail Kit	
	Number of Processor and Core	1 Processor, upgradeable up to 4. Should support 10 or 8 or 6 or 4 Core processor	
	Type of Chipset	Intel® 7500 Chipset	
	Processor:		
	Type of Processor	Quad-Core/Hex-Core Intel XEON	
	Processor clock speed	minimum 3.0 GHz or higher with 1333 MHz FSB or higher	
	Processor Series	Please mention	
	Main memory:		
	RAM & Expandability	Minimum 16GB expandable up to 64+ GB, ECC capability with 1333 MHz bus speed or more.	
	RAM type	DDRIII with 1333MHz or higher	
	Total no of RAM Slots	Minimum 12 Slots with future Expandability	
	Video Memory	Integrated Minimum 08 MB or higher	
	Cache Memory (Per core)	Integrated 12 MB or more	
	Disk Storage:		
	Storage Controller	Internal PCIe SAS RAID Controller; RAID Level support: 0, 1, 1+0, 5, 6 Memory: minimum 256 MB cache	
	Internal HDD bus interface type	Hot plug 2.5/3.5 inch SAS (Serial Attached SCSI)	
	Internal HDD Capacity	8x 300/450 GB (10K/15K RPM) SAS 2.5-inch Hot-Plug able Hard Disk Drives or Higher.	
	No of Hot-pluggable Media bays	Minimum Eight (8)or higher	
	RAID Controller	Raid Controller with 512MB Battery/Flash backed cache Should support Raid Level 0,1,5,6,10,50	
	Optical Drive	DVD Writer	
	Fiber Channel Adapter	Minimum 2 (Two) 8 Gbps Fiber Channel HBA should be provided	
	Ethernet Card	Minimum 2x Gigabit NIC	
	Remote management port	Integrated remote management capability with dedicated network connection and License, supporting GUI	
	Power Supply	2x Redundant Hot-Swappable Power Supply	
	System Fan	Hot Plug redundant fans (N+1)	
	Keyboard	Please specify, if required.	
	Mouse	please specify, if required.	
	VGA, Keyboard, mouse port	Should be mentioned	
	I/O slot	4 PCIe 2.0 slots - 2 full-height, half-length and 2 full-height full-length slots	
	Operating System	Please specify the supported operating system, all required license should be provide in each server	
	Form Factor	Rack Mountable	

	Power consumption	Should be mentioned in each server	
	Warranty	03 Years full	
b.	Active directory server (Specification same as above)		02
c	Proxy Server (Specification same as above)		01
d.	Web Server		01
e.	File & Print Server (Specification same as above)		02
f.	Mail Server: The server may handle approximate 4000 Mail User. Space per user approximates 1GB. The tenderer may proposed the server considering the above specification.		02
g.	Antivirus Server for client (Specification same as above)		01
h.	Network & Security Management server (specification given in Network part)		02
i.	Central Patch Management server		01
j.	Backup Solution (can be intregated with solution in section iv of 07.05.03)		01
	If any other Hardware/Software component or equipments are required for giving the solution, please, mention and quote for the same.		
k.	**Personal Computer for SMC, NOC, DOC, Testing, Staging and Project Manager Room**		39
	Brand	IBM/DELL/HP or equivalent	
	Model	To be mentioned.	
	Country of origin	To be mentioned.	
	Country of Assemble	To be mentioned.	
	Form factor	Tower	
	Processor	Core i5 2.5GHz/core	
	Speed	Minimum 2.93 GHz or higher.	
	Memory (RAM)	Standard 2GB expandable to minimum 4GB.	
	Cache Memory	Integrated 3MB L2	
	System Bus speed	1066MHz or Higher	
	Chipset	Intel G45 Express Chipset or higher	
	HDD	250 GB SATA HDD (7200rpm)	
	Optical Drive	DVD R/W	
	Monitor	17" Viewable LCD Colour.	
	Keyboard & Mouse	104 or more Keys enhanced USB keyboard, USB Mouse & pad.	
	Expansion slots	Minimum 3 PCI slots	
	Expansion Bays	Minimum 4 bays.	
	NIC	Integrated Ethernet Gigabit NIC	
	I/O Ports/ Interface	Parallel, Serial, Mouse, Keyboard, Graphics, RJ-45, USB etc.	
	Operating System	Pre-installed Windows XP Professional/ Windows7 Home Edition with recovery CD and Original License	
	Warranty	At least 3 years on site with full labour, parts and replacement.	
l.	**Laser Printer for project Manager Room**		01
	Brand	International reputed brand **(Hp/Epson/Samsung or equivalent)**	
	Model	Update Model	
	Country of Origin	To be mentioned	
	Country of Assembling	To be mentioned	
	Printing Speed	30 ppm, letter	
	Memory	Minimum 32MB	
	Paper Size	Maximum 8.5"X 14"	
	Paper weight	Minimum 63 g/m^2 to 163 g/m^2	
	Print Processor Speed	266 MHz	
	Duty Cycle	25000 Pages minimum	
	Resolution	1200 X 1200 dpi (minimum)	
	Warranty	Price should be offered for 1 (one) Year and 3 (Three) years full warranty with parts and labor (all Components)	

m.	**Line Printer**		01
	Brand	**PRINTRONIX/IBM or equivalent**	
	Model	P 7010 Country of origin : USA Country of Assemble : Singapore	
	Main Feature	Upper case and Lower case Support	
	Interface	RS-232, RJ-45, Network Interface, Parallel Port, Necessary Interface to connect the offered printer with IBM as/400 (eServer iSeriees 9406-800) and windows operating system	
	Printing Speed	2000 Line per minute high speed	
	Paper size	Continuous form width 3" to 17" (with tear stripes), when using rear exit, the maximum is 16 inches.	
	Emultion	IBM Proprinter iii, XL,Printronix P series XQ, Serial Matrix, Epson FX-1050	
	Printing Width	136 Column	
	Compatibility	Printronix	
	Form Type	Continuous, Fan fold, Edge-Performatted	
	Print Copy	Up to 6 Copy	
	Ribbon Alert Facility	Ribbon Alert/Observation facility	
	Warranty	1 year manufacture warranty & 2 years supplier warranty with parts & Labor	
	Operating Temp.	10-40 Degree C	
	Accessories	One genuine ribbon, power cable, Data cable, User manual, Drive Disk/CD, Software and other accessories as necessary to install the printer to existing IBM AS/400 (e Server iSeries 9406-800)	
	Installation	Bidder will install the printer with existing IBM AS/400(e Server iSeries 9406-800)	
	Ribbon	20 pieces Extra Genuine Ribbon	
n.	**Flat Scanner**		01
	Brand	International reputed brand **(Hp/Epson/Samsung or equivalent)**	
	Model	Update Model	
	Country of Origin	To be mentioned	
	Country of Assembling	To be mentioned	
	Regulation	1200x1200 dpi	
	Pixel Density	48 bit	
	Document Size	Letter, A4	
	Type	Color Flatbed , Single Pass: CCD	
	Scanning Speed	10 Sec	
	OS Compatibility	Compatible with offered Operation.	
	Interface	USB/Parallel	

07.06.0 Hardware for Core Banking Solution at Data Recovery Center (DRC)

The Tenderer must proposed the following Items with the same specification as defined in DC to perform smooth **ONE-LINE BANKING** operation from Branches, Divisions and Control Offices considering same features and Current **Business Dimension & Future Projection** defined in 2.2 in page no. 04 with their offered CBS.

07.06.00	Hardware for Core Banking Solution at Data Recovery Center (DRC)	Quantity
07.06.01	**Live/Production Environment**	
	Application Server	**01**
	Database server	**01**
07.06.02	**Storage Area Network (SAN)**	
i.	External Storage System	**01**
ii.	Storage Area Network Switch	**02**
07.06.03	**Network Devices**	
i.	Core Router	01
ii.	DMZ/ Internet Router	01
iii.	Core Switch	01
iv.	Core Firewall	01
v.	Internet Router	01
vi.	Internet Firewall with Content Security	01
vii.	IPS for Data Recovery Center	01
viii.	Server Farm and DMZ Switch	04
ix.		
x.	Load Balancer	01
xi.		
xii.	Rack with PDU and KVM	03
07.06.04	**Hardware for Office Automation at Data Recovery Center (DRC)**	
a.	File & Print Server	01
b.	Mail Server	01
c.	Antivirus Server	01
d.	Directory Server	01
e.	Personal Computer for NOC.	04

07.7.0 Hardware for Core Banking Solution at Pilot Branches

07.07.0	Hardware for Core Banking Solution at Pilot Branches		
a.	**Personal Computer**		**249**
	Brand	IBM/DELL/HP or equivalent	
	Model	Should be mentioned.	
	Country of origin	Should be mentioned.	
	Country of Assemble	Should be mentioned.	
	Form factor	Tower	
	Processor	Core i5 or better	
	Speed	Minimum 2.93 GHz or higher.	
	Memory (RAM)	Standard 2GB expandable to minimum 4GB.	
	Cache Memory	Integrated 3MB L2	
	System Bus speed	1333 MHz or Higher	
	Chipset	Intel G45 Express Chipset or higher	
	HDD	250 GB SATA HDD (7200rpm)	
	Optical Drive	DVD R/W	
	Monitor	Min.17" Viewable LCD Colour.	
	Keyboard & Mouse	104 or more Keys enhanced USB keyboard, USB Mouse & pad.	
	Expansion slots	Minimum 3 PCI slots	
	Expansion Bays	Minimum 4 bays.	

	NIC	Integrated Ethernet Gigabit NIC	
	I/O Ports/ Interface	Parallel, Serial, Mouse, Keyboard, Graphics, RJ-45, USB etc.	
	Operating System	Pre-installed Windows XP Professional/ Windows7 Home Edition with recovery CD and Original License	
	Warranty	At least 3 years on site with full labour, parts and replacement.	
b.	**Dot Matrix Printer**		**59**
	Brand	EPSON / International reputed brand	
	Model	Updated Model (To be mentioned)	
	Country of Origin	To be mentioned	
	Country of Assembling	To be mentioned	
	Head Pin	24 Pin	
	Paper Feed	Front, Rear and Back	
	Printable Column	136	
	Print Speed	480 cps at 10 CPI	
	Operating System	Windows-XP Professional with SP2 or higher version.	
	Warranty	1 (One) Years full warranty with parts & labor (all Components)	
c.	**Laser Printer**		**64**
	Brand	International reputed brand **(Hp/Epson/Samsung or equivalent)**	
	Model	Update Model	
	Country of Origin	To be mentioned	
	Country of Assembling	To be mentioned	
	Printing Speed	30 ppm, letter	
	Memory	Minimum 32MB	
	Paper Size	Maximum 8.5"X 14"	
	Paper weight	Minimum 63 g/m^2 to 163 g/m^2	
	Print Processor Speed	266 MHz	
	Duty Cycle	25000 Pages minimum	
	Resolution	1200 X 1200 dpi (minimum)	
	Warranty	Price should be offered for 1 (one) Year and 3 (Three) years full warranty with parts and labor (all Components)	
d.	**Off-Line UPS (30 minute Backup)**		**249**
	Brand	Renowned Brand (To be mentioned by the bidder)	
	Model	Update Model (To be mentioned by the bidder)	
	Country of Origin	To be mentioned by the bidder	
	Country of Assembling	To be mentioned by the bidder	
	Capacity	1 KVA	
	Input Voltage	160V to 260V	
	Output Voltage	220V ±5%	
	Battery Type	Lead Acid Sealed maintenance free	
	Backup Time	30(Thirty) minutes at full Load (750 wt bulb test)	
	Transfer Time	< 2ms	
	Battery Type Protection	Lead Acid Sealed maintenance free Battery Type lightning & Surge, Blackouts, Brownouts, Overload, under & over Voltage, Battery Low & Battery over Charge.	
	Warranty	1(One) year full warranty with all Parts and labor	
e.	**Scanner**		**55**
	Brand	International reputed brand **(Hp/Epson/Samsung or equivalent)**	
	Model	Update Model	
	Country of Origin	To be mentioned	
	Country of Assembling	To be mentioned	
	Regulation	1200x1200 dpi	
	Pixel Density	48 bit	

	Document Size	Letter, A4	
	Type	Color Flatbed , Single Pass: CCD	
	Scanning Speed	10 Sec	
	OS Compatibility	Compatible with offered Operation.	
	Interface	USB/Parallel	
f.	**Router**		**59**
	Brand	CISCO/Juniper or equivalent	
	Model	To be mentioned by the tenderer	
	Country of origin	US/EU or equivalent	
	Country of manufacturer	To be mentioned by the tenderer	
	Form Factor	Rack Mountable.	
	Switch port 10/100	Minimum 04	
	Built-in routing 10/100/1000 port	Minimum 02 or Higher	
	Memory/Flash	512 MB / 256 MB updatable 1 GB	
	Interface Support	FE, GE, Serial, ADSL, G.SHDSL, E1, T1	
	Wireless access support	3G WAN, Access Point support	
	Forwarding Performance	up to 280 Kbps	
	Switching Rate	150 Mbps	
	Encryption Method	DES, 3DES	
	Service Module slot	01 or integrated	
	Encryption Option	Built-in hardware based VPN encryption acceleration	
	Required Management Features	• Support Web View, Telnet, SNMP, Console, RMON, CLI, Remote Monitoring (RMON) with 4 RMON groups (history, statistics, alarms and events) • IEEE 802.1s, IEEE 802.1w, IEEE 802.1x, IEEE 802.3ad, IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX and 1000BASE-T ports. • IEEE 802.1D Spanning-Tree Protocol. IEEE 802.1Q VLAN	
	Required Security Features	IEEE 802.1x. Support for Remote Authentication Dial-In User Service (RADIUS). PPPoE, 802.1X RADIUS, RSA, LDAP Access Control Lists (ACL), Filtering NAT/NAPT, PKI, SSH v2 State full Firewall support.	
	Required Protocol and Standards Support	• IEEE 802.1Q, 802.1D, 802.3ad, 802.1w, 802.1s. • 1000BASE-X (SFP), 1000BASE-SX, 1000BASE-LX/LH. • RMON I and II standards. • SNMPv1, SNMPv2c, SNMPv3. • IGMP v1/v2/v3 • IGMP Snooping • RIP • Should Support BGPv4, OSPF. • Should Support IPv6.	
g.	**Manageable Switch**		
	Brand	CISCO/Juniper or equivalent	**56**
	Model	To be mentioned by the tenderer	
	Country of origin	US/EU or equivalent	
	Country of manufacturer	To be mentioned by the tenderer	
	Form factor	Rack mountable	
	Architecture	Layer-2 switching	
	Memory/Flash	Min.64/32 MB	

	Forwarding Speed	Min 10.1 Mpps	
	10/100/1000 BaseT	24 Port	
	Up link	02 port GE dual purpose both fiber & Ethernet option.	
	Standard Supports	• IEEE 802.1p prioritization with min. four priority queues • IEEE 802.3x Flow control • IEEE 802.3ad Link aggregation	
	Security	• 802.1x, MAC port Limit, RADIUS, ACL (Access Control List) • Dynamic Address Resolution Protocol (ARP) inspection, Unicast MAC filtering, Unicast port flood blocking, IP source guard. • Secure Shell (SSH) Protocol.	
	Management	• Centralized VLAN Management. • Remote Monitoring (RMON) software agent to support four RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis. • Support for all RMON groups through the use of a mirrored port, which permits traffic. • Monitoring of a single port, a group of ports, or the entire switch from a single network analyzer or RMON probe Analysis support, including ingress port, egress port	
	warranty	3 years full warranty with parts and labour	
h	**RACK (**Standard Rack must be offered in each Pilot Location to install necessary communication equipment.)		
	Wall mounted Rack	Brand : To be mentioned	**56**
		Model : To Mentioned	
		Country of Origin : To be mentioned	
		Country of Assembly: to Be mentioned	
		Width-600mm, Height- 9U, Depth- 600 and 19" Standard	
		Front door: Glass / Vented	
		Cooling Fan: 2 pcs	
		PDU: 5 Point	
		Color: Black.	
i	**LAN and Electric Line setup**		
	Basic Information	No. Branches 55 (Fifty Five) No. of Control Office : 01 (one)	As per require ment .
		Tenderer may visited the branches, Divisions and control Office as listed in **Annexure-3** and provide Visio drawings of HS/MS LAN and proposed as per drawing.	
		No. of Node/Port for pilot project to be estimated as per **Annexure-3**	
	Structured Cabling	Cable type CAT 6a	
		Cable Brand to be mentioned	
		Country of Origin of the cable to be mentioned	
		Fiber Optic cable for backbone and vertical wiring	
		All horizontal wiring must be terminated in patch panels located in the rack at the main interconnect device.	
		All vertical and horizontal wire management and wire identification must be installed.	
		All wire must have plastic cover with structure channel to hide patch cords.	
		Set up necessary equipment and power line for PC, Printer, Scanner and LAN device etc.	
	Warranty	Warranty for structure cabling and rack must be 20 years with maintenance.	

7.8.0 RDBMS. OS and other Related Software for Core Banking Solution for DC and DRC

i.	**Operating system (Licence Type and Copy)**		
	Basic Information	Tenderer must proposed the operating system to comply their offered CBS and Application Server for smooth operation of branches, Control Offices and Divisions as per Current **Business Dimension & Future Projection** defined in 2.2 in page no. 04.	
	Software Name	To mentioned	
	Edition	To mentioned	
	Version	To mentioned	
	License Type	To mentioned	
	Upgrade Facility	The software must be upgrade within warranty and maintenance period with new edition, version and release with offered cost if necessary.	
ii.	**RDBMS (Licence Type and Copy)**		
	Basic Information	Tenderer must proposed the RDBMS to comply their offered CBS, Application Server, Database Server for smooth operation of branches, Control Offices and Divisions as per Current **Business Dimension & Future Projection** defined in 2.2 in page no. 04.	
	Software Name	DB2 or Oracle Enterprise Edition Latest version or equivalent	
	Edition	Bidder shall propose Enterprise Edition of their RDBMS product for the Production, Failover/Standby (in Data Centre) and Disaster Recovery Site Database Servers.	
	Version	To mentioned	
	License Type	The Licensing of the RDBMS for the Passive (Failover) node in DC should not be constraint by any duration limitation in event of failover of the Primary Server to Failover Server (Stand by Server of the Data Centre) or downtime for maintenance.	
	Upgrade Facility	The software must be upgrade within warranty and maintenance period with new edition, version and release with offered cost if necessary.	
	Compatible	The Core Banking System and the proposed RDBMS should be tested and compatible, the latest version of the RDBMS should be supported within 90 Days of its General Availability by the CBS Application.	
iii.	**Web server (Licence Type and Copy)**		
	Basic Information	Tenderer must proposed the RDBMS to comply their offered CBS, Application Server, Database Server for smooth operation of branches, Control Offices and Divisions as per Current **Business Dimension & Future Projection** defined in 2.2 in page no. 04.	
	Software Name	To mentioned	
	Edition	Bidder shall propose Enterprise Edition of their RDBMS product for the Production, Failover/Standby (in Data Centre) and Disaster Recovery Site Database Servers.	
	Version	To be mentioned	
	License Type	To be mentioned	
	Upgrade Facility	The software must be upgrade within warranty and maintenance period with new edition, version and release with offered cost if necessary.	
	Compatible	To be mentioned.	
iv.	**Enterprise Management Software**		
	Brand Name	To be mentioned	
	Product Name	To be mentioned	
	Version/ Edition	To be mentioned	
	License Type	To be mentioned 1000 node Licenses	
	Features on Enterprise Management Solution (EMS):	Detail Specification Of Enterprise Management Solution (Ems) is given in 08.01	
v.	**Network Management Software**		
	Brand Name	To be mentioned	

	Product Name	To be mentioned	
	Version/ Edition	To be mentioned	
	License Type	To be mentioned	
	Technical Functionalities	The system must cover the following functional area : • Network & Fault Management • IP Services Management • Traffic Analysis	
	Features on Network Management Solution (NMS):	Detail Specification Of Network Management Solution (EMS) is given in 08.01	
vi.	**Antivirus Software**		
	Brand Name	To be mentioned	**3000 user**
	Version	To be mentioned	
	License type	To be mentioned	
	License User	Minimum 3000 User (First phase 1000 user and 2nd phase 2000 user as per schedule of requirement.	
	Feature :	The antivirus solution should provide enhanced antivirus protection for desktops & servers of CRIS all the attacks originating from places inside/outside of the CRIS network due to virus and/or other malicious programming code.	
		The antivirus solution should provide enhanced antivirus protection for desktops & servers of CRIS all the attacks originating from places inside/outside of the CRIS network due to virus and/or other malicious programming code.	
		The antivirus solution Should have a Centralized Management Console.	
		The antivirus solution Should Support Multi -Platform operating system(Windows , Linux or other reported O/s) and the same should be managed from a single Centralized Management console	
		The antivirus solution Should have single, Configurable Installation with centralized configuration & policy management.	
		Antivirus should support integration with Active directory for directory structure of computers for better management	
		Automatic update of Antivirus Server from Vendor Site (Every 10 Min) & The client should get update from the local Server If updating from the Primary Server fails for any reason (such as the user being off the network) an attempt should be made to contact the Secondary Server (I.e Vendor site)	
		Centralized scanning of all network Machines	
		Anti virus Should be capable of pushing client installation from a centralized location and it should also support manual installation of client Via network share.	
		Administrator should have flexibility to schedule Scan and update at the endpoints from central Server.	
		Antivirus should be able to capture Viruses, Trojans, Worms ,Spyware and Malware	
		Anti Virus Should have Host Intrusion Prevention System (HIPS)technology which works in 4 Layers to provide zero day protection without the need for updates (Unknown Virus Detection & Repair),	
		Antivirus should have run time detection technology i.e behavioral & Heuristic scanning to protect from unknown viruses and buffer overflow protection integrated with AV scan engine for protection from threats/exploits that uses buffer overflow	
		Anti-Virus Software must have the capability to clean, Qurantine or delete Viruses and should be able to detect new classes of viruses by normal virus definition update mechanisms	
		Antivirus vendor should provide definitions with incremental updates. Should support daily update for definition files. Size of daily update should be extremely small in size (typically between 25 and 50kb in size)	
		Administrator Should be able to add files, folders or extensions to an	

		exclude list so that they are not scanned on access.	
		Should enable automatic submissions of unknown/suspected virus samples to vendor and automatic response/delivery of the cure.	
		Administrator should be able to lock down all anti-virus configurations at the desktop & User should be prevented from being able to uninstall the anti-virus software.	
		Administrator must be able to distribute new and update anti-virus software, virus definitions and Policies automatically to clients and servers from a central location .	
		Administrator Should be able to initiate virus sweeps remotely in case of an outbreak.	
		Alerts on virus activity should be passed on to administrator	
		Antivirus solution Should have APPLICATION Control module with the ability to block or be alerted to the use of a long list of UnAuthorised applications (E.g. File Sharing , Games, etc.)	
		Antivirus solution should have integrated DEVICE control module with a features to set devices to " Read Only " , "Add Exceptions'" and " Block "	
		Antivirus solution should have integrated Network Access control module with the ability of Quarantine feature that should block remote users that fail security checks from accessing network resources	
		Antivirus solution should have integrated Network Access control module with the ability of Quarantine feature that should block remote users that fail security checks from accessing network resources	
		Antivirus solution should have a Live web protection module Integrated into existing endpoint agent with no endpoint configuration required to Blocks URLs that are hosting malware and Should Support all major browsers - IE, Firefox, Safari, Opera, Chrome	
		Vendor Should have Threat analysis centers to provide proactive rapid protection against known and unknown threats	
		Vendor should have 24*7 Global Technical Support.	

7.09.0 Core Banking Solution for Rupali Bank Ltd.

	CBS		
	Basic Information	Tenderer must offered CBS as per Schedule of Requirement in section 06 to perform Current **Business Dimension & Future Projection**	
	Software Name	To mentioned	
	Edition	To mentioned	
	Version	To mentioned	
	License Type	To mentioned	
	Upgrade Facility	The software must be upgrade within warranty and maintenance period with new edition, version and release.	
	Functionality and Features	**Specified in 8.03.**	

Capacity Building.

	Training Proposal to build up Officers and Staff of Rupali Bank		Qty
	Basic Information	Rupali Bank has ------ Officer and ----- Staffs out of which there are four System Analyst, one Assistant System Analyst, two Programmer and Six Assistant Programmer are officially requited. All others are general Banker; Few of them have IT Knowledge. T	
	1st Phase	**Pilot Project**	
	Core Team for Training & Technology Transfer	Developing a core team of at least 100 professionals for ensuring the implementation of the system beyond the project period. Training area and No. of participant for **Core Team** must be as follow or the Tenderer may proposed their own concept to cover all area of the project: i. System Management and Operation : 10 ii. Database Management and Operation : 10 iii. Network Management and Operation : 15 iv. DC/DRC Management and Operation : 15 v. Core Banking functional training : 25 vi. Core Banking Technical Training : 25 **Total -100**	**100**
	Implementation and Operation Team for Pilot Project. **(On Site Training)**	The Tenderer will responsible for training at least 2(Two) officers of each Branch, Division and Control Office as define in Pilot Project. The area of Training and total No. of Participant are given below : **Operation of CBS, Simple Trouble Shooting of System and Network**: 60 Offices x 2 Participant = 120 Participants.	**120**
	2nd Phase	**Rest Branches and Control Offices**.	
	Support Team for Control Offices.	The Tenderer must build up a two member team in each control office to support its related branches for the following area or the Tenderer may proposed their own concept to cover all area of the project. : i. System Management and Operation ii. Network Management and Operation iii. Core Banking functional training iv. Core Banking Technical Training **Total No. of Participant : 35 x 2 = 70**	**70**
	Implementation and Operation Team for Branches **(On site Training)**	The Tenderer will responsible for training at least 2(Two) officers of each Branch. The area of Training and total No. of Participant are given below : **Operation of CBS, Simple Trouble Shooting of System and Network**: 437 Branches x 2 Participant = 874 Participants.	**874**
	List of Course Information	The Tenderer must submit the following Course Information to perform the above training for smooth operation of the project in phase wise	
	Course Title	To be Mention.	
	No. of Batch of the course	To be mentioned	
	No. of Participants per Batch	To mentioned	
	Duration of the Course	To mentioned	
	Venue (Local/Foreign)	To be mentioned.	

7.11.0 IP Telephony and IP Video Telephony System.

Basic Requirement:

- The Tenderer may proposed Total No. of Nodes approximate 2000 for future projection
- Voice Conference Bridge facility with 3 concurrent meeting & max 20 concurrent user.
- Phone type distribution.

Phone type	Phase -1	Phase -2	Total
Basic	355	709	1066
Executive	214	485	699
Operator	3	1	4

i.	**Voice Gateway**		02
	Brand	To be mentioned by the tenderer	
	Model	To be mentioned by the tenderer	
	Country of origin	US/EU or equivalent	
	Country of manufacturer	To be mentioned by the tenderer	
	Product part no.	To be mentioned by the tenderer	
	Architecture:	• Should be chassis based & modular architecture for scalability and should be a single box configuration for ease of management. • Should support at least 4 interface slots to accommodate the current requirement as well as for the future expansion • Should have support for hardware based IPSEC VPN (3DES/AES) Encryption card. Should have complete IPSEC VPN, Firewall, IPS features & future support for SSL VPN features. • Should have minimum of 512MB of RAM and 256 MB of Flash Memory and should be upgradeable to 1GB and 2GB respectively.	
	Interface Requirements:	• 2 x 10/100/1000 Base T interface. • 1 x E1 port. • 8 nos FXO or C/O port	
	Performance:	• Should support high performance traffic forwarding with concurrent features like Security, Voice enabled • Should support variety of interfaces like V.35 Sync Serial (2 Mbps), Async Serial, E1 G.703, Ch-E1 for remote office aggregation • GE as per IEEE 802.3z and 802.3ab, FE as per IEEE 802.3u, Chassis support for PoE as per IEEE 802.3af ISDN BRI, PRI • Support for 802.11a/b/g Wireless Cards for Wireless LAN or Wireless Bridging functionality. • Should have support for high density Voice interfaces like E &M, Voice E1 for connecting Analog phones & integration to PBX / PSTN. • Should support performance enhancement through hardware based encryption / compression module. • Should support at least 320 Kpps forwarding performance • Support for high density Ethernet switch cards (8 port / 16 port) for remote offices to avoid additional switches. • Should have USB 2.0 ports for storing OS images & secure token.	
	High Availability	• Should support redundant connection to LAN • Should support Non-Stop forwarding for fast re-convergence of routing protocols • Should support boot options like booting from TFTP server, Network node	

		• Should support multiple storage of multiple images and configurations • Should support link aggregation using LACP as per IEEE 802.3ad • Should support VRRP or equivalent	
	Protocol Support	• Should support Routing protocols like RIP ver1 (RFC1058)&2 (RFC 1722 and 1723), OSPF ver2 (RFC2328), OSPF on demand (RFC1793), BGP4 (RFC1771), IS-IS (RFC1195). • Multicast routing protocols support : IGMPv1,v2 (RFC 2236), PIM-SM (RFC2362) and PIM-DM, DVMRP, M-BGP • Should have IPv6 features: DHCPv6, IPv6 QoS, IPv6 Multicast support, BiDirectional PIM, Multicast VPN, PIM SSM (Source Specific Multicast), IPv6 PIMv2 Sparse Mode, IPv6 PIMv2 Source-Specific Multicast, • Should have RIPng and OSPFv3 for IPv6. • Should have MPLS Features: MPLS VPN, MPLS (mVPN (Multicast VPN), VRF-Aware Services (NAT, FW, IPsec…), Carrier Supporting Carrier (CsC), DiffServ Tunnel Modes, MPLS TE, DiffServ-Aware TE, Inter-AS VPNs).	
	IP Services		
	QoS Features:	• Classification and Marking: Policy based routing, IP Precedence, DSCP, MPLS exp bits • Congestion Management: WRED, Priority queuing, Class based weighted fair queuing • Traffic Conditioning: Committed Access Rate/Rate limiting • Signalling: RSVP • Link efficiency mechanisms: cRTP, LFI, MLPPP • Per VLAN QoS. Time Based Shaping and Policing for QoS	
	Security Features:	• Support for GRE Tunneling, NAT, L2TP tunneling • Firewall, IPS & future support for SSL VPN features. Support for customized IPS signatures. • Support for tunnel less VPNs for very high scalability with support for routing protocols and multicast traffic. • Support for MD-5 route authentication for RIP, OSPF, IS-IS and BGP • Shall support multi-level of access • Support for SNMPv3 authentication, SSHv2 • AAA support using Radius and/or TACACS • Support for PAP and CHAP authentication for P-to-P links • Support for DoS prevention through TCP Intercept & DDoS protection • Multiple privilege level authentications for console and telnet access through Local database or through an external AAA Server. • Time based & Dynamic ACLs for controlled forwarding based on time of day for offices • IEEE 802.1x support for MAC address authentication • Should support features to limit the spread of viruses & worms on the desktops / workstations.	
	Multi-media support:	• Shall support Voice capabilities. Should be able to act as IP PBX for ✓ pass-through ✓ Codec support for G.711 and G.729 ✓ Should support H.323, SIP, MGCP • Should support Voice call processing of at least 30 IP Phones in the event of WAN link failure to central location housing Central call processing Engine • Should support bandwidth optimization features like Voice Activity Detection, Silence Suppression, Echo cancellation	
	Management	• Shall have support for Web based management, CLI, Telnet and SNMPv3 • Shall support Secure Shell for secure connectivity. • Shall support Out of band management through Console and external modem for remote management	

	Standards and Certifications	• UL/IEC/EN 60950-1	
	Warranty	At least 3 years on site with full labour, parts & replacement.	
ii.	**Call Manager**		02
	Brand	To be mentioned by the tenderer	
	Model	To be mentioned by the tenderer	
	Country of origin	US/EU or equivalent	
	Country of manufacturer	To be mentioned by the tenderer	
	Product part no.	To be mentioned by the tenderer	
	Call Control System Architecture & Redundancy	• A comprehensive IP based solutions based on a Server Architecture running on Linux OS. • The call control system should have SIP based architecture and will provide support for integrated telephony solution for Analog & IP Phones, PSTN gateways over IP architecture. • The call control system will be of centralized architecture so that a single system can support all end points viz. IP phones, analog phones, gateways etc. in a region containing multiple sites connected across wide area network. • 22000 user capable. • The call control system should be fully redundant solution with NO single point of failures & should provide 1:1 redundancy to all IP & analog phones in the region • The call control system should support various architectures like, centralized, distributed with clustering over the WAN, distributed with centralized call control, remote survivability. • Support for call-processing and call-control. • It is desirable to have all the appliances in the call control system should have dual redundant and hot swappable power supply and fans for high availability. • All appliances in the call control system should have hot swappable storage media (if any) to ensure high availability. • All appliances in the call control system should preferably be connected over gigabit Ethernet for connectivity to the network. • Shall support signaling standards/Protocols – SIP, MGCP, H.323, Q.Sig. • CODEC support - G.711, G.729, G.729ab. • Should support following phone types – IP Phones, IP Softphone for PCs, Analog Phones. • Having inbuilt administration software • Able to add bulk add, delete, and update operations for devices and users. • Conference Bridge—provides software conference bridge resources that can be used by IP EPABX. • IP Phone Address Book Synchronizer—allows users to synchronize Microsoft Outlook or Outlook Express address books with Personal Address Book. The Synchronizer provides two-way synchronization between the Microsoft and IP Telephony products.	
	System Capabilities Summary	• The System should have IP capability for interfacing & Communicating with Voice, Video and Data infrastructure • The architecture should support a maximum of 6000 IP phones per Server (based on a High End Server) • The architecture should support Server Clustering to provide scalability to offer support for 10000 IP Phones and also to provide redundancy • The System should support Alternate automatic routing • The System should support Automated Route selection •	

- The System should have GUI support web based management console
- Open API should be provided when required which will help to develop customized IP Applications which will integrate with the Call Processing
- The System Should support Attenuation and gain adjustment per device (phone and gateway)
- The System should have Automated bandwidth selection
- The System should have XML Layer (AXL) Simple Object Access Protocol (SOAP) Application Programming Interface with performance and real-time information.
- Call preservation - redundancy and automated failover – on call-processing failure
- Coder-decoder (codec) support for automated bandwidth selection
  - ✓ G.711 mu-law, a-law
  - ✓ G.722, G.722.1
  - ✓ G.723.1
  - ✓ G.728
  - ✓ G.729A/B
  - ✓ GSM-EFR, FR
  - ✓ Wideband audio
  - ✓ Advance Audio Codec
- Digit analysis and call treatment (digit string insertion, deletion, stripping, dial access codes, digit string translation and dial pattern transformation)
- Database resiliency to increase feature availability for the following:
  - ✓ Extension mobility
  - ✓ Privacy
  - ✓ Device mobility
  - ✓ End-user and Application User Certificate Authority Proxy Function (CAPF) for CTI
- Device mobility changes in the location-specific information when a device moves within the cluster
- Dial-plan partitioning
- Distributed call processing
  - ✓ Deployment of devices and applications across an IP network
  - ✓ "Clusters" of Call-Servers for scalability, redundancy, and load balancing
- Fax over IP—G.711 pass-through and Fax Relay
- Forced authorization codes and client matter codes (account codes)
- Hotline and private line automated ringdown (PLAR)
- Multi-Level Precedence and Preemption (MLPP)
- Programmable Line keys
- PSTN failover on route unavailability—AAR
- Q.SIG (International Organization for Standardization [ISO])
- Basic call
- Call Transfer by Join
- Identification Restriction (CNIR (Calling Name Identification Restriction), COLR (Connected Line Identification Restriction), CONR (Connected Name Identification Restriction))
- Loop prevention, Diversion Counter & Reason, Loop Detection, Diverted to Number, Diverting Number, Original Called Name& Number, Original Diversion Reason, Redirecting Name.
- Redundancy and automated failover on call-processing failure
- Call preservation on call-processing failure
- Station through trunk (Media Gateway Control Protocol [MGCP] gateways)

		• Java Telephony API (JTAPI) and Telephony API (TAPI) applications enabled with automated failover and automatic update. • Trunk groups • Security • Device authentication: Embedded X.509v3 certificate in new model phones. CAPF used to install locally significant certificate in phones. • Data Integrity: TLS cipher "NULL-SHA" supported. Messages appended with SHA1 hash of the message to ensure that the message is not altered on the wire and can be trusted. • Privacy: CallServer supports encryption of signaling and media.	
		• Secure HTTP support for Call Server Administration, Serviceability, User Pages, and Call Detail Record Analysis and Reporting Tool. • Secure Sockets Layer (SSL) for directory • USB eToken containing a rooted X.509v3 Certificate is used to generate a Certificate Trust List (CTL) file for the phones as well as configuring the security mode of the cluster. • Phone Security: TFTP files (configuration and firmware loads) are signed with the self-signed certificate of the TFTP server. The CallServer system admin will be able to disable http and telnet on the IP phones • SIP trunk (RFC 3261) and line side (RFC 3261-based services) • Shared resource and application management and configuration • Transcoder resource • Conference bridge resource • Topological association of shared resource devices (conference-bridge, music-on-hold [MoH] sources, and transcoders) • T.38 fax support (H.323, MGCP, and SIP) • Third-party applications support • Hook-flash feature support on selected FXS gateways • TAPI 2.1 service provider (TSP) interface • JTAPI 2.0 service provider interface • Video codecs: H.261, H.263, H.264, and Wideband Video Codec • Video telephony (H.323, and SIP)	
	User Features with SIP support	• Abbreviated Dial • Answer and answer release • Autoanswer and intercom • Callback busy, no reply to station • Call connection • Call coverage • Call forward—all (off net and on net) • Call forward—busy • Call forward—no answer • Call forward—no bandwidth • Call forward—not registered • Call hold and retrieve • Call Join • Call park and pickup • Call pickup group-universal • Call pickup notification (audible or visual) • Call status per line (state, duration, number) • Call waiting and retrieve (with configurable audible alerting) • Calling Line Identification (CLID) • Directory dial from phone—corporate, personal • Directories—missed, placed, received calls list stored on selected IP phones • Extension mobility support	

		• Join across lines • Service URL—single button access to IP Phone Service • Single button barge • Single directory number, multiple phones—Bridged line appearances • User-configured speed dial and call forward through Web access • Video (SIP and H.323) • Web services access from phone • Web dialer: Click to dial	
	Summary of Administrative Features	• AXL Simple Object Access Protocol (SOAP) Application Programming Interface with performance and real-time information. • CDR Analysis and Reporting Tool (CAR) • Configurable and default ringer WAV files per phone • Dialed Number Analyzer (DNA) • Dialed number translation table (inbound and outbound translation) • Dialed number identification service (DNIS) • Enhanced 911 service • JTAPI 2.0 computer telephony interface • MGCP signaling and control to selected VoIP gateways • QoS statistics recorded per call • Single CDR per cluster • TAPI 2.1 computer telephony interface • Extended Markup Language (XML) API into IP phones • IP Security (IPsec) and certificate management • Real-time trace monitoring • Syslog to SNMP trap MIB • Enhanced AXL SOAP API to modify the database	
	Trunk and Endpoint Support :	• Native support of SIP devices • CTI for Internet service provider (ISP) phones • Presence information for SIP devices, including support for PUBLISH • Fault, configuration, accounting, performance, and security (FCAPS) enhancements to support SIP • SIP trunk enhancements for external applications, such as conferencing and presence • Third-party SIP devices supporting RFC 3261 • SIP line-side RFCs: RFCs 3261, 3262, 3264, 3265, 3311, 3515, and 3842 • SIP trunk RFC support: RFCs 2833, 2976, 3261, 3262, 3264, 3265, 3311, 3323, 3325, 3515, 3842, 3856, and 3891 • QSIG, SIP, H.323	
	Remote Survivability System	• Should provide automatic survivability service to all types of IP phones in the local site in the event of no service being available from the call control system to the phones. The survivability system should be capable of providing fall back telephony system on its own in case of no network availability. • In the event when service from the call control system becomes unavailable, the phones should register themselves automatically to the survivability system. • No existing “internal” calls • should drop while the switch over is happening as mentioned in the previous point. • The survivability system should be able to facilitate voice calls between phones in the same site.	

		• Once the service from the call control system is back to the phones, the phones should automatically switch over from the survivability system to the call control system without any manual intervention or system interruption. • No "internal" existing calls should drop while the switch over is happening as mentioned in the previous point. • Should provide the following basic call features while the phones are registered with the survivability system - Caller ID, Call hold & resume, call pick up, call forward, call transfer last-number redial, Calling party name, music on hold, distinctive ringing. • In the event of a few sites loosing the service from the call control system due to some failure in the WAN connectivity, the survivability systems should be able to allow voice calls between locations through PSTN by leveraging the PSTN gateway. • While the phones are working with the survivability system, the survivability system should support TLS signaling encryption for all types of IP Phones to make sure no tampering has occurred to signaling packets during transmission. • The survivability system should support encryption of the voice traffic (media) between all three types of IP Phones using standard based Secure RTP (SRTP) as per IETF RFC 3711 for security requirements while the phones are working with the survivability system due to loss of service from the call control system. • Should have QoS support to offer very low latency and jitter to critical voice traffic. • Should support policing and shaping for delivering the appropriate QoS to applications as well as for securing the survivability system from threats.	
	Warranty	At least 3 years on site with full labour, parts & replacement.	
iii.	**Executive IP Phone**		
	Brand	To be mentioned by the tenderer	
	Model	To be mentioned by the tenderer	
	Country of origin	US/EU or equivalent	
	Country of manufacturer	To be mentioned by the tenderer	
	Product part no.	To be mentioned by the tenderer	
		• The IP Phone should provide two programmable backlit line/feature buttons and four interactive soft keys that should guide a user through call features and functions, and audio controls for high-quality duplex speakerphone, handset, and headset. • The IP Phone should have a built-in headset port and an integrated Ethernet switch • IP phone should include a large, backlit, easy-to-read colour display for easy access to communication information, timesaving applications, and features such as date and time, calling party name, calling party number, digits dialed, and presence information. It should also accommodate Extensible Markup Language (XML) applications that take advantage of the display. • Support for wideband (G.722 codec, adherence to TIA 920), including handset, headset, and speakerphone. • G.711a, G.711μ, G.729a, G.729ab, G.722, and iLBC audio compression codecs should be supported • Ready access to missed, received or placed calls (plus intercom history and directories). Incoming messages should be identified and categorized on the display, allowing users to quickly and effectively return calls using direct dial-back capability. Support for corporate directory.	

		• There should be an internal 2-port Ethernet switch allowing for a direct connection to a 10/100BASE-T Ethernet network through an RJ-45 interface with single LAN connectivity for both the phone and a co-located PC. The system administrator should designate separate VLANs (802.1Q) for the PC and IP phones, providing improved security and reliability of voice and data traffic. • Phone should support positive device identity through X.509v3 Certificates, digitally signed images, cryptographically secure provisioning, and secure signaling and secure media with AES-128. The phone should also support 802.1X supplicant and supports EAPOL pass-through. • The IP Phone should support the following: ✓ Support for IEEE 802.3af ✓ Support of Extension Mobility ✓ 24 user adjustable ring tones ✓ DSCP & IEEE 802.1q/p standards ✓ Provisioning of network parameters through DHCP ✓ IP phones should be available with Software, camera to support video telephony.	
	Warranty	At least 3 years on site with full labour, parts & replacement.	
iv.	**Basic IP Phone**		
	Brand	To be mentioned by the tenderer	
	Model	To be mentioned by the tenderer	
	Country of origin	US/EU or equivalent	
	Country of manufacturer	To be mentioned by the tenderer	
	Product part no.	To be mentioned by the tenderer	
	General Specification	• The IP Phone should provide two programmable backlit line/feature buttons and four interactive soft keys that should guide a user through call features and functions, and audio controls for high-quality duplex speakerphone, handset, and headset. • The IP Phone should have a built-in headset port and an integrated Ethernet switch • IP phone should include a large, backlit, easy-to-read display for easy access to communication information, timesaving applications, and features such as date and time, calling party name, calling party number, digits dialed, and presence information. It should also accommodate Extensible Markup Language (XML) applications that take advantage of the display. • Support for wideband (G.722 codec, adherence to TIA 920), including handset, headset, and speakerphone. • G.711a, G.711μ, G.729a, G.729ab, G.722, and iLBC audio compression codecs should be supported	
		• Ready access to missed, received or placed calls (plus intercom history and directories). Incoming messages should be identified and categorized on the display, allowing users to quickly and effectively return calls using direct dial-back capability. Support for corporate directory. • There should be an internal 2-port Ethernet switch allowing for a direct connection to a 10/100BASE-T Ethernet network through an RJ-45 interface with single LAN connectivity for both the phone and a co-located PC. The system administrator should designate separate VLANs (802.1Q) for the PC and IP phones, providing improved security and reliability of voice and data traffic.	

		• Phone should support positive device identity through X.509v3 Certificates, digitally signed images, cryptographically secure provisioning, and secure signaling and secure media with AES-128. The phone should also support 802.1X supplicant and supports EAPOL pass-through. • The IP Phone should support the following: • Support for IEEE 802.3af • Support of Extension Mobility • 24 user adjustable ring tones • DSCP & IEEE 802.1q/p standards • Provisioning of network parameters through DHCP • IP phones should be available with Software, camera to support video telephony.	
	Warranty	At least 3 years on site with full labour, parts & replacement.	
v.	**Operator Phone**		
	Brand	To be mentioned by the tenderer	
	Model	To be mentioned by the tenderer	
	Country of origin	US/EU or equivalent	
	Country of manufacturer	To be mentioned by the tenderer	
	Product part no.	To be mentioned by the tenderer	
	Features	• The IP Phone should provide two programmable backlit line/feature buttons and four interactive soft keys that should guide a user through call features and functions, and audio controls for high-quality duplex speakerphone, handset, and headset. • The IP Phone should have a built-in headset port and an integrated Ethernet switch • IP phone should include a large, backlit, easy-to-read display for easy access to communication information, timesaving applications, and features such as date and time, calling party name, calling party number, digits dialed, and presence information. It should also accommodate Extensible Markup Language (XML) applications that take advantage of the display. • Support for wideband (G.722 codec, adherence to TIA 920), including handset, headset, and speakerphone. • G.711a, G.711µ, G.729a, G.729ab, G.722, and iLBC audio compression codecs should be supported • Ready access to missed, received or placed calls (plus intercom history and directories). Incoming messages should be identified and categorized on the display, allowing users to quickly and effectively return calls using direct dial-back capability. Support for corporate directory.	
		• There should be an internal 2-port Ethernet switch allowing for a direct connection to a 10/100BASE-T Ethernet network through an RJ-45 interface with single LAN connectivity for both the phone and a co-located PC. The system administrator should designate separate VLANs (802.1Q) for the PC and IP phones, providing improved security and reliability of voice and data traffic. • Phone should support positive device identity through X.509v3 Certificates, digitally signed images, cryptographically secure provisioning, and secure signaling and secure media with AES-128. The phone should also support 802.1X supplicant and supports EAPOL pass-through. • The IP Phone should support the following: • Support for IEEE 802.3af • Support of Extension Mobility	

		• 24 user adjustable ring tones • DSCP & IEEE 802.1q/p standards • Provisioning of network parameters through DHCP • IP phones should be available with Software, camera to support video telephony.	
	Calling Features	• Multi-line appearance (six extensions/speed dials) • Calling name and number display • Call waiting • Call forward • Call transfer • Three-way calling (conference) • Pre-dialing before sending • Redial • Call hold / resume • Call mute • Call park • Call pick-up / group pick-up • "You Have Voice Mail" message on display • Video Calls	
	Other Features	• Comfort noise generation (CNG), voice activity detection (VAD), adaptive jitter buffer, and echo cancellation • Local phone book and server based directory information • Time / date display • 24+ user-adjustable ring tones • G.711a, G.711µ, G.729a, G.729ab, G.722, iLBC audio compression codecs and wideband audio should be supported • Should have 2 lines configuration to IP PBX. Should also have additional 12 lines appearance with expansion module. • An IP address assignment—DHCP client or statically configured • Should have full-duplex speakerphone with acoustic echo cancellation • Integrated Ethernet switch • Inline Power and IEEE 802.3af class POE. • Should supports differentiated services code point (DSCP) and 802.1Q/p standards. • Should have two port Ethernet switch allows for a direct connection to a 10/100BASE-T Ethernet network and provide LAN connectivity for both the phone and a collocated PC • Software upgrade supported using a Trivial File Transfer Protocol (TFTP) server • Layer 2 Discovery Protocol for power negotiation as per the IEEE class. • Automatic IEEE 802.1q (Virtual LAN [VLAN]) configuration • Built-in headset port • Should support X.509v3 Certificates, digitally signed images, cryptographically secure provisioning, and secure signaling and secure media with AES-128. • The phone also contains an 802.1X supplicant and supports EAPOL pass-through. • The phone should support an expansion module for the provision of speed-dial keys.	
	Protocols Supported	• Skinny Client Control Protocol (SCCP) protocol • SIP (RFC 2543)	
	Warranty	At least 3 years on site with full labour, parts & replacement.	
vi.	**Voice Conference**		
	Brand	CISCO/Juniper or equivalent	
	Model	To be mentioned by the tenderer	
	Country of origin	US/EU or equivalent	
	Country of manufacturer	To be mentioned by the tenderer	

	Product part no.	To be mentioned by the tenderer	
	General Features	• The conferencing system should meet the following general specifications: • The system should provide audio conferencing solution. • Should provide at least 40 ports so that 40 simultaneous users can use a single system at a time for audio conferencing (e.g. 5 simultaneous conferences while each of the conferences is having 8 users). • Should be a server based architecture, with two 10/100 fast ethernet connections. • The system should have dial-in and dial-out capability for getting users joined for a conference. • The system should support segmented meeting access for external and internal users. • All users using the IP Phones and Analog phones should be able to use their IP & analog phone (whichever applicable) to join the conference. • Should support SIP, H.323, G.729a and G.711 codecs. • Should support integration with LDAP and Microsoft AD. • The system should announce entry and departure of conference participants with the help directory as and when they join or leave the conference for security and ease of operation. • Should provide mute and un-mute facility to the user during the conference. • The conference participants should be able to perform one-is-to-one and one-is-to-all instant messaging during the conference. • Should preferably provide integration facility with email platform for automated document delivery to the users email box. • Should support broadcasting announcements during a conference. • Should support H.323, H.261, H.263, H.264, SIP protocols. • The system should be configurable in a way so that users have to authenticate themselves before accessing a conference. • **Should support Concurrent 20 connection & at least 3 Session**.	
	Voice Conferencing Features :	• Real-time mixing of up to three simultaneous speakers • Adjustable input volume (gain) of each participant • Entry and exit notification: beep plus name, beep, or silent • Recording (voice) and playback (MP3) • Automatic extension of meetings if capacity is available • End-of-meeting warning	
	Meeting Setup and Attendance Features :	• Easy voice conference setup: Users can quickly and easily schedule and reschedule voice meetings in a single step from Microsoft Outlook and a variety of Web browsers. • Meeting types: Support for the following meeting types: • Scheduled, Recurring, Continuous, Reservation less. • E-mail invitations: Using standard SMTP e-mail, invitations can be sent to meeting invitees in either HTML or text format. • Flexible attendance options: Users should have numerous options available when attending meetings: ✓ Dial in: Users have a couple of options to dial into a meeting: ✓ Dial directly into the voice meeting using the dial-in number, and when using a recognized phone, the user is automatically logged into the system and directed to her meeting ✓ Click-to-attend link: Users can click a URL in Outlook and in e-mail invitations that takes them to a Webpage providing an option to attend the voice, Web, and video meetings simultaneously.	

		✓ Join from the Web: Users can go to the system Website and either find the meeting or specify the meeting ID to reach a Webpage providing options to dial out to a specified number or endpoint and join the Web meeting. ✓ Dial out from Phone View: Users with supported IP phones can find the meeting or specify the meeting ID to have the system call their IP phone.	
	Security	• Conference System should offer the following security features: • Dedicated on-net system: • Segmented meeting access • Access authentication • Integrated authentication. • Encryption.	
	Warranty	At least 3 years on site with full labour, parts & replacement.	

08.01 Detail Specification OF Enterprise Management Solution (EMS)

It should have a centralized Enterprise Management solution for all the IT assets spread across various offices throughout different locations across the state.

The offered solution is recommended to be from a single vendor/product family so as to ensure the integration and high level of data exchange between various layers and based on an internationally recognized industry standard Enterprise Management Solution (EMS) and shall be required to have full capabilities to provide unified Fault, Performance and Service level management and reporting. The proposed solution is expected to have the following functionality :

- The Solution has modular architecture.
- The Solution is expected to be based on SNMP and TCP/IP standards permitting Network layer level Management of alarm and events on the same platform.
- The Solution is scalable customizable module wise to suit the growing or changing needs.
- The Solution is capable of managing Network Resources deployed over a heterogeneous mix of media.
- It would be possible to use the Policies and Tasks defined at the Base for all the functional modules running on top of the base.
- EMS features an object-oriented architecture that is open, distributed, highly scalable, and multi-platform.
- Solution is able to delegate authority: It would be possible to provide the means to define multiple administrators, each with their own level of authority suitable to their responsibility and experience level. Using role based administration; it would be possible to control administrator access to appropriate function and /or other resources. The solution can be divided into Policy Regions (a logical collection of resources) based on organization or geography.
- Web-based user interface
- centralized, scalable architecture
- Capability to monitors virtual environments including all VMware MS Hyper-V, and Sun Solaris Zones.

monitoring capability(Optional):
FireWall-1, Cisco Works, Citrix XenApp, COM+, F5 Big-IP, Generic Database using JDBC queries, IBM DB2, IBM WebSphere Application Server, IBM WebSphere Performance Servlet, IBM WebSphere MQ Server, JBoss Application Server, JMX metrics, Macromedia ColdFusion Server, MAPI, Microsoft ASP Server, Microsoft Exchange, Microsoft IIS, Microsoft SQL Server, Microsoft Windows 64-bit Editions, Oracle Application Server, Oracle BEA Tuxedo, Oracle BEA WebLogic, Application Server, Oracle Siebel Application Server, Oracle Siebel Log, Oracle Siebel Web Server, Oracle Database, Real One/Real Media Player and Server, SAP CCMS, SAP Java Application Server, SAP Performance, SAP Work Processes, Sun One server, Sybase database, UDDI Server, Windows Media Player and Server, Windows resources, XML metrics

i) Network & Fault Management

- The Network Management System (NMS) must be capable of automatically discovering manageable elements connected to the network and mapping the connectivity between them.
- The system should provide discovery & inventory of heterogeneous physical network devices like Layer-2 & Layer-3 switches, Routers and other IP devices and do mapping of LAN & WAN connectivity with granular visibility up to individual ports level.
- The modeling of network connectivity must be performed using standard or vendor-specific discovery protocols to ensure speed and accuracy of the network discovery

- The system must be able to support mapping and modeling of the infrastructure grouped by network connectivity, physical location of equipment and user groups or departments
- The system should support maps grouped by network topology, geographic locations of the equipments and user group/departments. These should help in understanding physical Network, virtual Network services and the relationships between them.
- It shall be possible to reduce the set of displayed devices in the topology views by flexible rules, based on the attribute contents stored with each device.
- The system must also support manual modeling adjustments to allow administrators to customize the structure, the layout and relationship between modeled elements
- The system must provide visualization tools to display network topology and device to device connectivity. The system must also be able to document connectivity changes that were discovered since the last update.
- The topology view shall provide a real-time, optically distinguished indication of the overall status (up and running, critical alarm, major alarm, minor alarm) for each displayed device including an alarm roll-up feature to propagate the status to higher levels of the managed infrastructure.
- The system must leverage vendor-specific protocols to ensure network discovery and mapping are performed with high accuracy, speed and efficiency
- The system must support scheduled discovery to ensure that the relationship between elements are maintained and up-to-date
- The system must provide user-configurable discovery control to manage the frequency and scope network discovery, configured using a graphical user interface
- The system should be able to update router configuration changes like re-indexing of ports, addition/deletion of ports on Network Map with each polling cycle without rediscovery of complete network/individual device.
- The system must provide a user-configurable event to alarm mapping system that sets a differentiation that events do not necessarily need an alarm to be generated
- The system must provide a user-configurable event processing policies that helps to reduce volume of information at the console by classifying events as alarms only if it meets a set of user-specified criteria such as event occurrence frequency, event sequence and duration of event in active state
- The proposed solution should provide out of the box root cause analysis with multiple root cause algorithms inbuilt for root cause analysis.
- The system must use advanced root-cause analysis techniques like Inductive modeling technology as well as Model-based and Policy-based condition correlation technology for comprehensive analysis of network faults.
- It should provide an intuitive User Interface for defining conditional correlation of the events.
- It should have a strong event correlation engine which can correlate the events on the basis of event pairing.
- The system must have a fault-tolerance feature built-into the primary management server to meet high availability requirements.
- The network database must be stored in a duplicated copy fully synchronized automatically between the primary and secondary system to ensure high level of readiness for the secondary server to assume management responsibility.
- The system must have intelligence and ability to understand impact of devices under maintenance and do not generate alarms for outages introduced by the maintenance work
- The system must not generate multiple alarms of the same type for the same device but only show the number of repeated occurrences. This is to reduce the number of alarms that needs to be managed at the operations centre
- The system must be able to ‘filter-out’ symptom alarms and deduce the root cause of failure in the network automatically
- The system must provide an auto-calculated impact analysis of individual element failure to provide the operator and administrator understanding of the impact of the failure onto other elements in the network
- The system must support outgoing notification integration to helpdesk or trouble ticketing system
- The system must provide a user-accessible command-line interface to access and update the management system database to ensure custom-scripted customizations can be performed without the need of using API-level integration or development toolkits
- The system should support creating and monitoring of rising or falling thresholds with respect to basic key performance indicators for network, system and application infrastructures and provide immediate notification when service metrics fall outside the baselines.
- The operating system of the network management and monitoring system must be in architecture and client must manage to all managing functions using graphical user interface.
- The security must be able to permit or restrict operator access to different areas of information based on user security rights assigned by the administrator.
- The system needs to support concurrent multi-user access to the management system, enabling multiple read-write access to different areas of the management domain
- The solution must enable administrator full access to the management system information remotely using ISDN/ADSL or IP dial-up

- The system should provide vendor-specific device support for the managed network devices in the network using information gathered from MIB2 and vendor-specific extensions
- The system must be designed for multi-technology and Multi-vendor network environment and operation.
- The system should have self-certification capabilities so that it can easily add support for new traps and automatically generate alarms
- The system should have the capability to manage NAT based environments and environments with duplicate IP address spaces
- The system should support secure device configuration capture and upload and thereby detect inconsistent "running" and "startup" configurations.
- The system should be able to clearly identify configuration changes as root cause of network problems
- The tool should provide sufficient reports pertaining to asset and change management, alarms and availability of critical network resources as well as network response times for critical links
- The tool should provide a detailed service dashboard view indicating the health of each of the departments / offices in the organization and the health of the services they rely on as well as the SLAs.
- The system should provide an outage summary that gives a high level health indication for each service as well as the details and root cause of any outage.
- The system should have a simple interface to integrate events from multiple element management systems (like Cisco Works etc.) into a single management console, thereby achieving complete visibility from a single location.
- The system must be able to support response time agents such as Cisco Service Assurance agent to perform network performance tests to help identify network performance bottlenecks.
- The system must be able to support migration to SNMP v3 whenever it is decided to implement in full SNMPv3 as the default management protocol to provide added security.
- The system must be able to manage Frame Relay network, providing discover and model the connectivity of the frame relay environment.
- The system must provide visibility of status and gather performance information of each frame relay circuit to help manage utilization to measure utilization against CIR, errors (FECNs, BECNs) to help identify performance and availability issues.
- The system must be able to manage ATM PVCs to monitor the status and performance information of individual ATM circuits, supporting ATM and/or vendor-specific ATM extensions.

ii) Network Report Manager

- It should provide automated report creation and distribution.
- It should have facility to export reports to PDF, Excel and Word formats.
- It should have Reports for Alarm, Asset, Availability, Change, Top N and Trend, with secure remote access.
- It should have out-of-the-box reports with advanced and dynamic grouping.
- It should provide centralized report administration, and access control of business-critical information.
- It should have Intuitive, easy-to-use web based delivery platform.

iii) Network Configuration Management

- The system should be able to clearly identify configuration changes as root cause of network problems
- The system should support secure device configuration capture and upload and thereby detect inconsistent "running" and "startup" configurations and alert the administrators.
- The proposed system should be able to administer configuration changes to network elements by providing toolkits to automate the following administrative tasks of effecting configuration changes to network elements:
  - Capture running configuration
  - Capture startup configuration
  - Upload configuration
  - Write startup configuration
  - Upload firmware
- The proposed fault management solution must able to perform "load & merge" configuration changes to multiple network devices
- The proposed fault management solution must able to perform real-time or scheduled capture of device configurations
- The proposed fault management solution must able to store historical device configurations captured in the database and thereby enable comparison of current device configuration against a previously captured configuration as well as compare the current configuration against any user-defined standard baseline configuration policy.
- The proposed fault management solution must also support a self-certification option to support device configuration load and capture thereby enabling users to "self-certify" devices not supported.
- The proposed system should be able to monitor compliance & enforce change control policies within the diverse infrastructure by providing data & tools to run compliance reports, track & remediate violations, and view history of changes.

iv) Fault Tolerance

- A major advantage of using this Fault Tolerance approach is the ability to set up redundancy between management servers, creating a fault tolerant environment. A secondary SERVER can be provided as a redundant backup or standby, so that network management would continue even if the workstation running the primary Server fails.
- When a failure occurs that disables the primary Server, the secondary automatically takes its place, and applications automatically use the redundant Server.

v) Network Fault Manager Add-on points -

- Information from multiple element management systems into a single console. These events are then available for customized root-cause analysis and service management.
- Interface for importing provisioning data into the NMS software so that you can correlate subscriber and service data with managed network resources.

vi) IP Services Management

- The proposed solution should be able to map and manage enterprise MPLS – VPNs by automating the provider connection resolution and monitoring the service health with an option to auto-provision service assurance tests to proactively calculate the availability of remote sites
- The proposed solution should be able to discover CE routers peer with PE routers using the BGP Peer table like:
    - Local Autonomous System Number (ASN)
    - Remote Autonomous System number
    - ASNs registered with regional registries
- The proposed solution should provide a built-in database of over 2000 ASNs
- The proposed solution should provide BGP Session Monitoring to monitor the health of the BGP peering session to determine traffic impact when the peering session is down as well as identify the root cause of any traffic outage
- The proposed solution should provide ASN pooling including discovery and management of multiple ASNs assigned to a single provider.
- The proposed solution should be capable of managing the VPN Service including a complete Service Discovery of all the Devices and components that support each VPN.
- The proposed solution must organize the VPN information so that all of the supporting PE Routers and Interfaces are collected under each VPN.
- The proposed solution should provide real-time VPN performance statistics including VPN Site performance parameters like Traffic IN / OUT per site, aggregate all site traffic etc.
- The proposed solution must be able to automatically configure and provision site-to-site VRF Ping tests on each router that support VPNs to verify the ability to ping each other.
- In case a new site is added to the network the proposed solution must automatically setup the VRF Ping test on the new device and also update all over PE devices to include the new devices in their tests as well.
- The proposed solution must provide network operators and troubleshooters complete visibility into the MPLS Core Network specific to the LSPs from site to site. The proposed solution must provide a user Interface that allows users to select one site and then select another site to launch a VRF-Traceroute.
- The proposed solution must discover MPLS Core Network logical entities
- The proposed solution must be able to visualize MPLS paths with spotlighting feature to distinguish specific LSP paths as and when required
- The proposed solution must be able to monitor availability and performance of MPLS Core Network
- The proposed solution must be able to correlate known alarm conditions with MPLS-specific logical entities (e.g. MPLS Path)
- The proposed solution must be able to quickly identify and alert administrators on less obvious issues such as excessive path switching
- The proposed solution must build up a knowledge-base of LSP (Label Switch Path) through the network from each site to the other and then enable users to view this PATH History within the operator Console.
- The proposed solution must provide an MPLS Path History view which not only discovers all of the VPNs and VPN Sites but also discover the current traffic paths through the VPN cloud.
- The proposed solution must provide Out of the box Locaters for LSPs, Paths etc. in an MPLS network
- The proposed solution must enumerate all discovered entry points into MPLS core network and provide End-to-end visibility across MPLS core network.
- For LSPs having one or more MPLS Paths the proposed solution must be able to display in the topology hop-by-hop connections across MPLS core network
- NOC operators must be able to request a path trace on-demand and generate a path history to understand what is normal for a VPN Site and when did the path change.
- The proposed solution must be able to provision VRF Path Trace Tests and alert operators when excessive path change occurs within the network.

- The proposed solution must poll LSP Path for all sites to detect changes, provide path history for troubleshooting and provide complete information regarding the current path, previous path etc.
- The proposed solution should be able to support response time agents to perform network performance tests to help identify network performance bottlenecks.
- The proposed solution should be able to monitor QoS parameters configured to provide traffic classification and prioritization for reliable VoIP transport. The proposed solution should discover and model configured QoS classes, policies and behaviors.
- The proposed solution should provide the ability to discover, map & monitor multicast sources & participating routers wherein the system should be able visualize the distribution tree in the topology map.

vii) Net Flow Based Reporting

The vendor must provide a solution for collecting NetFlow data from multiple devices simultaneously across the network for performance reporting. The solution must provide the following NetFlow based metrics:

- Rate
- Utilization
- Byte Count
- Flow Count
- IP hosts with automatic DNS resolution
- IP conversation pairs with automatic DNS resolution
- Router/interface with automatic SNMP name resolution
- Protocol breakdown by host, link, ToS or conversation.
- Utilization by bit pattern matching of the TCP ToS field.
- AS number
- BGP next hop address
- IPv6 addresses

viii) Solution Database Definition

- The proposed solution must keep historical rate and protocol data for a minimum of 12 months (most recent) in its current long term operating database. All data in that database must have a maximum 15 minute window granularity. A user must be able to select any 15 minute window over the last 12 months and display unique utilization and protocol data for every monitored interface.
- The proposed solution must keep historical rate and protocol data for a minimum of 30 days (most recent) in its short term operating database. All data in that database must have a maximum 1 minute window granularity. A user must be able to select any 1 minute window over the last 30 days and display unique utilization and protocol data for every monitored interface.
- The proposed solution must be able to monitor and report on a minimum of 15000 unique protocols per day and display utilization data for each protocol individually. This capability must be available for each monitored interface uniquely.
- The proposed solution must keep and report on a minimum 25000 unique hosts per day for each monitored interface.
- The proposed solution must keep and report on a minimum 25000 unique conversations per day for each monitored interface.

ix) The system must support wizard driven customized report creation from the long term database.

- The wizard driven system must support the ability to report on traffic based on the IP ToS field using a bit pattern matching method that will allow reporting on any variation of usage within this 8 bit field including, but not exclusive to, DSCP and IP Precedence. The system must maintain this custom ToS based information for each interface for at least 12 months at a minimum 15 minute granularity.
- The wizard must support the ability to specify which hosts, conversations, IP ports, custom ToS matches and interfaces are included or excluded from the web based report.
- The wizard must allow GUI driven date range selection for the reporting period.
- The system must allow the defined custom reports to be saved indefinitely for future use and allow GUI driven modification at any point in time.
- All custom reports from the long term database must support the ability to be run manually or scheduled to run automatically at user selectable intervals.
- All reports should be generated and displayed directly by the system from a common interface.
- The system must be able to restrict views for defined users to specific routers, interfaces, and reports.

The user must be able to generate reports from the long term database based on specific thresholds defined by the user where the threshold can be compared to rate, utilization or volume of every monitored interface as a filter for inclusion in the report.

The proposed system must be capable of automatically detecting anomalous behavior such as virus attacks or unauthorized application behavior. The system should analyze all NetFlow traffic and alert via SNMP trap and syslog of any suspicious activity on the network.

The vendor must have reference accounts with a minimum of 5000 interfaces currently monitored and historically stored in a single database through a single web interface using the proposed version of the system. Each NetFlow collection device (multiple required) must support a minimum of 5 million flows per minute and be capable of storing gathered information in a common database where all long term reporting information is held.

The proposed system must be capable of providing an overview page showing the following immediately upon login (first page displayed after unique login);

- Top utilized links (inbound and outbound) based on utilization of every link being monitored by every collection device.
- Top protocols by volume based on utilization of every link being monitored by every collection device.
- Top host by volume based on utilization of every link being monitored by every collection device.
- A listing of interfaces exceeding either of 2 configurable utilization thresholds and a configurable percentage of time over threshold value. This listing must not be limited in number or scope. The system must check all interfaces it monitors for inclusion in this listing.

The overview page must provide drill down capability by mouse click on the displayed items listed, for each of the displayed items above.

Graphs displayed in the overview page must also provide additional information using “mouse over” functions or similar methods that provide details of that item w/o mouse click or navigation away from the current page.
The overview page must include an email function that provides a GUI driven method for emailing the page in graphical format as well as for scheduling the email of this page at regular intervals without user intervention to one or more recipients.

The proposed system must be capable of sending alerts via SNMP trap. Alerts should the having the following configurable parameters:

- The ability to choose any protocol being monitored by the system
- The ability to choose any interface or group of interfaces being monitored by the system
- The ability to choose any ToS bit being monitored by the system
- The ability to choose rate, volume, utilization over a specified threshold for a given period of time
- The ability to choose any time filters (i.e. business hours).

The user must be able to easily change the data type of the main interface view to a tabular format showing the increase or decrease of traffic generated by that protocol as a percentage using discrete least-squares approximation to find a best fit line of growth.

08.03 Core Banking Solution

08.03.1 General Requirement.

08.03.1.1 Business Performance Requirements of the System.

To ensure the value addition both in technology and performance, RBL management has decided to automate banking activities fully in future under this Project. The bank decided to purchase a world-class industry standard State-Of -The-Art On-Line Banking System for the Bank in phases to bring uniformity and to keep pace with the technological advancement in the banking sector.

08.03.1.2 Functional Performance Requirements of the System.

With the advancements in information and communication technology, the customers, particularly the high net-worth individuals and blue chip corporate, are becoming technology aware day by day. They increasingly expect for better service, better value for time, effective fund management tools. This necessitates that bank look towards innovative solutions for retaining the existing and attracting fresh high net-worth individuals and blue chip corporate. To retain customers and to allure new customers, bank now intends to purchase REAL TIME ON-LINE BANKING APPLICATIONM SYSTEM.

08.03.1.3 Real Time On-Line Banking Application System.

The bidder must submit the details of the core banking application as per its own style and form to describe how best its product/service would fulfill the bank's functional and non-functional requirements.

The On-Line CBS should be capable enough to scale both horizontally and vertically in order to grow with the increase number of customer as well as with the addition of new delivery channels. It should be highly parameterized so that all the rules can easily be applied for different banking products and services and also posses the flexibility of modifying the screen and report content without modifying the source code having in-built security features in multiple levels.

However, the bidder must provide its additional response to the bank's requirements in terms of **General & Technical Requirements** with required status information on detailed functional and non-functional requirements

08.03.1.4 Systems Specifications Requirement Study.

The successful bidder will conduct a detailed systems requirements study and provide a Functional Requirements Specification Manual ("FRSM") relating to the functionalities as required to support the various products and services offered currently by the Bank or to be offered by the Bank in the near future in terms of its business strategy. In doing so the bidder is expected to take into account the minimum requirements laid down in **General & Technical Requirements**. Also it should include all the areas where the Bidder is suggesting a work-around. If the work-around involves re-alignment or re-engineering of a business process, the re-aligned/ re-engineered process should be included in the FRSM.

- The FRSM should include the standard operating procedure proposed for the re-aligned/ re-engineered process. The Bidder is expected to assist the Bank in aligning/ engineering the business requirements with the application so as to enable centralization of desired business process, eliminate redundant and duplicate processes, increase operational efficiency and improve customer service. Bidder is expected to prepare detailed documentation, presentation, workflows for the business processes affected due to implementation of On-Line BAS, delivery channels and other applications implemented by the Bidder.
- The Bidder is also expected to suggest suitable Business Continuity procedures applicable to its solution in case the solution is unavailable. These procedures should ensure that the customers of the Bank are not denied banking services due to the solution being unavailable to the Bank's users.
- The FRSM should include capabilities to automatically detect, inform and reverse transactions that may be incomplete due to hardware failures.
- The Bidder shall provide the FRSM to the Bank for review and comment and any comments or suggestions of Bank will be incorporated therein.
- The Bidder will suggest the number and volume of the Functional and Technical Group for the bank and their responsibilities.
- The Bank will identify the functional heads for each process, who will be responsible for the review, comments and sign – off of the FRSM.
- The FRSM will deem to be completed when signed – off from the Bank.
- The bidder is also expected to carry out and document a detailed current assessment study for all business activities, product and service offered by the bank to gain understanding of the bank's existing business and operations. The bidder is expected to help the bank to parameterize the product and provide valuable inputs at the time of system parameterization based on the current state assessment study undertaken by the bidder.
- The Bidder will suggest the number and volume of the Functional and Technical Group for the bank and their responsibilities

08.03.1.5 Gap Identification and Resolution

The Bidder will be responsible for gap identification and resolution so as to:

a. functionalities as mentioned in the FRSM.
b. The Bidder will provide the Bank with the gap identification report along with the necessary solutions to overcome the gaps and the time frames.
c. The Bidder will ensure that all gaps identified at the time of system testing will be immediately resolved.
d. The Bidder will ensure that gaps pointed out by the audit and inspection team, statutory and regulatory bodies, or any other third party agency engaged by the Bank will be immediately resolved.
e. The Bidder shall resolve gaps by proposing a suitable work around or customizing the proposed solution by way of modifications / enhancements, as necessary, to the proposed software solution.
f. The Bidder shall provide all statutory, regulatory and ad-hoc MIS (Management Information System) reports as required by the Bank in the desired format during the initial phase of customization process.
g. The Bidder shall provide for all subsequent changes to reports as suggested by the statutory and regulatory bodies from time to time immediately to the Bank at no additional cost to the Bank.
h. The Bidder shall provide for a flexible report writer utility and train the Bank personnel in using the same.
i. The Bidder will give adequate time to the Bank for reviewing the gap report.
j. The Bidder will incorporate all the suggestions made by the Bank to the gap report.
k. The Bidder will ensure that they have the necessary infrastructure and people in place to resolve all the gaps within the time lines agreed, for the implementation and roll out.
l. The cost of all customizations as mentioned above is required to be included in the Price Bid and the Bank will not make any additional costs for such effort till all the branches are live. While costing the customization effort required, the Bidder should exclude the effort required from the Bank's side.

08.03.1.6 Data Migration

a. The Bidder will be responsible for successful data migration from the legacy systems to the new environment for all the branches. It is the bidder's responsibility to liaise with the legacy system for the purpose of data mapping and extraction in what ever format the On-Line Banking application system bidder wants the data. The bank will not bear any additional cost for data migration, nor will be responsible for the same. The bidder has to develop Data Migration tools for the existing Banking Application Software (Platforms of the legacy systems are stated at the **annexure -08**) for smooth Data Migration, which shall be use for entire project/any future data migration.
b. Entire data pertaining to live accounts (from the time of account opening or from the time the data is available) for accounts like term deposits, recurring deposits, loans and advances, etc. should be migrated to the proposed solution for all the branches being converted to CBS. The history data should at least fulfill the objectives of printing backdated customer statements (for all products, accounts, and schemes supported by the legacy application), general ledger, profit & loss statements, trial balance, account master information, standing instructions and transaction history (including GL, P&L heads and other office accounts) and should also support printing MIS reports as desired by the Bank for the legacy data migrated.
c. Migration of all outstanding entries from the legacy systems to the new CBS application for the identified general ledger for future reconciliation.
d. The Bidder will be responsible for formulating the "Data Migration Strategy" and process documents which will have to be reviewed and signed – off by the Bank prior to commencement of the data migration exercise. The On-Line CBS bidder would need to factor all effort to liaise, interact, develop tools, correspond etc. with the legacy vendor to obtain the data as desired by the CBS solution.
e. The Bidder will prepare the "Data Migration Strategy" and process documents within shortest possible time.
f. The Bidder will give the Bank adequate time to review and sign – off the Data Migration Strategy and process documents.
g. All comments and suggestions of the Bank must be incorporated in the data migration strategy and process documents before obtaining sign – off.
h. The Bidder may associate the Bank's personnel proficient in the legacy systems for assistance during the data migration exercise.
i. For this purpose adequate training would need to be imparted by the Bidder to the Bank's personnel for the same.
j. In the event of any gaps in the field mapping reports the same would be discussed with the Bank and the agreed solution would be documented by the Bidder and signed off from the Bank at no additional cost to the bank. The Bidder would give the Bank adequate time for the review of the agreed solution.
k. The Bidder shall ensure that workarounds or default values moved to the production database as a result of gaps in the field mapping are duly taken care of after successful migration to CBS and the Bank officials informed of the same in writing.
l. It will be the responsibility of the Bidder to ensure complete data cleaning and validation for all data migrated from the legacy systems to the new application.

m. The Bidder will be responsible to massage the data as per the software / upload format required by the solution. It will be the responsibility of the Bidder to convey to the Bank, at least 60 days in advance from the date of migration, all the mandatory fields required for the functioning of the proposed applications that are not available in the legacy systems and that needs to be obtained by the Bank.
n. In the event the Bank is unable to obtain all the mandatory fields as conveyed by the Bidder, the Bidder shall suggest the most suitable workaround to the Bank. The Bidder shall document the suggested workaround and sign-off will be obtained from the Bank for the suggested workaround.
o. The Bidder will be responsible for development of data entry programs / applications with appropriate validations/checks that may be required for the purpose of data migration in order to capture data available with / obtained by the Bank in non – electronic format. These programs / applications should be made available to the Bank at least 30 days in advance from the date of migration. The bidder will be responsible to install the data capture tool at the branches where required and train the users on data entry.
p. The Bidder will conduct training for the personnel or any other third party data entry agencies during the time of data entry with their responsibility and cost.
q. The Bidder will be responsible for uploading the data entered by the Bank through the manual data entry screens, programs / applications.
r. The Bidder shall ensure that sufficient training is imparted to the data migration team of the Bank with regards to but not limited to On-Line CBS data structure, field mapping requirements, field validations, default values and gaps in field mapping reports.
s. The Bidder shall develop the data conversion programs to convert banks data to On-Line CBS upload format. The Bidder shall perform mock data migration tests to validate the conversion programs.
t. The Bidder will be responsible for assisting the Bank in conducting the acceptance testing and in verifying the completeness and accuracy of the data migrated from the legacy applications to the proposed systems.
u. The Bank or its consultants may, at its will, verify the test results provided by the Bidder.
v. The Bank reserves the right "to audit" / "appoint an external auditor to audit" the process of data migration and / or the completeness and accuracy of the data migrated during the entire exercise of data migrations.
w. Any gaps / discrepancy observed will be reported in writing to the Bidder, who will act upon it and resolve the same immediately or within 5 working days from the day of reporting the same.
x. The Bidder will be responsible for obtaining the data from the branches for the purpose of migration.
y. The Bidder will be responsible to develop control reports for verification of the data both before and after migration.

08.03.1.7 Interfaces

a. The Bidder will be responsible for identifying the detailed interface requirements for integrating the proposed packages to the systems, as mentioned in **Annexure-08,** thereafter and for all other functionalities as mentioned in the tender proposal.
b. The Bidder will present to the Bank the interface requirements for review.
c. The Bidder will give the Bank adequate time to review the interface requirements.
d. Any suggestions from the Bank will have to be included by the Bidder.
e. The Bidder will be responsible for developing, testing and maintaining the interfaces. In case of any subsequent change, modification or alteration to the Banks existing application software packages, the Bank will obtain the API for such existing application and provide the same to the Bidder for interface.
f. The Bidder must ensure that all interfaces are automated with minimal manual intervention. All 3rd party applications proposed by the bidder to meet the functional requirements of the bank should provide an on-line interface with the On-Line BAS.
g. The Bidder will be responsible for setting up the test environment for interface testing and

- Assist the Bank in preparing the test cases for the testing
- Ensure that the test cases meet all the testing requirements of the Bank.
- Resolve all errors, bugs, enhancements / modifications required during and after testing but not before go live (within a maximum of 7 working days)
- Fix bugs and errors in one day after 'go-live' and obtain sign – off from the bank immediately after such fixing. If any workaround solution is suggested, that should be provided ON THE SAME DAY, in respect of errors and bugs affecting the functioning of the Bank.

08.03.1.8 Testing

a. The Bank proposes to conduct "User Acceptance Test" ("UAT") testing for the purpose of ensuring that all the functionality requested for by the Bank is available and is functioning accurately. The UAT would be carried out for the On-Line BAS, including the entire proposed module, all the delivery channels and all the 3rd party software proposed.
b. The Bidder will convey to the Bank that all the customizations that are required to "Go Live", as agreed upon and signed off by the Bank are completed and the solution is ready for testing.
c. The Bidder will set up a test server, to accommodate a minimum of 25 concurrent users, which shall support simultaneous data migration testing and install the applications including the customizations, parameterize it as

per Bank's requirement and upload live data of a sample branch in the test server. The Bank expects the test environment to be available to the Bank at all times, for the purpose of testing. The Bidder is expected to provide for the requisite test and development infrastructure including hardware, software, operating system and database for all applications including any 3rd party solutions being offered by the Bidder. The Bank expects the Bidder to set up the required solutions (including the client desktops) and provide connectivity to test server at DC/DRC at the desired testing center of the Bank for the purpose of testing. The Bank shall not pay any additional amounts to the Bidder for the purpose of creating the test environment.

d. The Bidder will install client version of the solution on the PCs provided by the Bank.
e. The Bidder will assist the Bank in preparing test cases including test data.
f. The Bidder will assist the Bank in conducting all the tests and analyzing / comparing the results. Bidder shall provide 5 full time resources conversant in all business areas, for trouble-shooting during the entire UAT process.
g. Any deviations / discrepancies / errors observed during the testing phase will be formally reported to the Bidder and the Bidder will have to resolve them in one day and sign – off from the same will be obtained from the Bank. However, workaround solution should be provided ON THE SAME DAY, in respect of errors and bugs affecting the functioning of the Bank.
h. The Bidder will be responsible for maintaining appropriate program change control and version control for all the modifications /enhancements carried out during the implementation / testing phases.
i. The Bidder will be responsible for providing and updating system & user documentation as per the modifications.

08.03.1.9 Pilot Implementation.

a. The pilot implementation will consist of implementing the proposed On-Line CBS(all modules) including the delivery channels and 3rd party applications in the identified branches/offices and associated extension counters.
b. The Bidder will be responsible for setting up all the servers at the DC and DRC. Installation & Configuration of the OS, RDBMS, Utility Software, Security Software and Management Software in all the places/sites.
c. The bidder will be responsible for setting up all the networking and communication hardware and software and testing of the same.
d. The Bidder will be responsible for installing the applications with all the customizations duly tested.
e. The Bidder will set all the parameters in the applications as accepted in the test environment. The Bidder shall be responsible for accuracy of the parameters set according to business needs of the Bank.
f. The Bidder will be responsible for migration of the legacy branch data to the new system..
g. The Bidder will be responsible for ensuring that all the client software is installed at the branch, Head Office Divisions and Control Office as specified in Pilot Location in Annexure-03.
h. The Bidder will be responsible for imparting the required training to the branch, Division and Control Offices personnel prior to implementation.
i. The Bidder is required to be present at each of the branches/offices under migration for at least the first two-weeks after the branch has been migrated to the proposed solution for handholding, troubleshooting and hands-on training. Adequate Bidder personnel are required to be present on – site, conversant in all business areas of that branch.
j. The Bidder will assist the Bank in testing the reports generated using the proposed application with those generated by the old system during the parallel run. The Bidder personnel will investigate any differences observed in the report generated using legacy system as compared to the report generated from the On-Line CBSand initiate corrective action.
k. The Bidder will assist the Bank in deciding when to discontinue the parallel run.
l. The Bidder will be responsible for implementing the delivery channels and ensure that the customers of the branch being converted to the On-Line CBS are able to utilize the delivery channels.
m. Branch, Division and Control Office pilot implementation phase will be deemed complete once the Bidder has obtained a sign-off for implementation at all the pilot branches/offices from the Bank. The branch/offices will need to live run successfully for a period of at least 15 working days before signing – off on pilot implementation.
n. In the event of any deviations / discrepancies / errors observed at the pilot branches, the sign off will only be given by the Bank once the deviations / discrepancies / errors reported by the branch have been successfully rectified by the Bidder.
o. The Bidder shall depute relevant personnel to attend and resolve the branch problems immediately.

08.03.1.10 Introduction of New Products

Electronic Bill Presentment & Payment:

a. The On-Line CBS should have the capability to directly interface with BACH, BEFTN and ATM the utility companies registered with the Bank and upload the data received from these companies on a periodic basis for bill details and payments to be made;

b. Facility to provide for bill presentment and payment through various delivery channels being offered by the Bank as well as through the Branches on the On-Line CBS.
c. All transactions to be effected in the On-Line CBS on an on- line real time basis for bill payments made by customers either through the branches / any other delivery channels offered by the Bank.

08.03.1.11 Training & Technology Transfer:

Providing necessary classroom and on-the-job training to Bank's designated personnel on all the supplied Operating systems administration, user account and rights management, Backup procedure, system and network performance and security monitoring etc.

Providing necessary classroom and on-the-job training to Bank's designated personnel on the supplied Core Banking system administration, customization, parameterization, adding/introducing new products, user account and rights management, Backup procedure, system performance and security monitoring etc.

Providing necessary elementary classroom training to all the Bank's Computer System users on all the daily operation, safety practices, security, Email usage, basic word processing and spreadsheet usage etc.

Providing necessary classroom and on-the-job training to all the Bank's Core banking System users on all the daily operation, safety practices, security etc. This training may be different for different division/department/section depending on the module they will be authorized to use.

For Advance level Trainings, Foreign Training should be arranged.

In case of Foreign partner in the consortium or partnership, the Foreign partner should have to provide a schedule to RBL (with the submitted bid) regarding Technology Transfer to local counterpart. This is required to ensure availability of quality service locally.

08.03.1.12 Flexibility.

Flexibility in design should allow fast and inexpensive system changes to support new regulations and changes in products and services, as well as changes in reporting requirements.

Should have the ability to expand the system, changes in reporting as & when require without charging any additional cost.

08.03.2 Vendor Response to Technology Requirement.

(This must be completed and submitted by the vendor with the technical bid).

Requirement Level	Criteria	Vendor Response	Remarks, if any
M	**Supported Platform:** Centralized		
M	**Database Server:** RISC-based/ CISC-based. The system should support more than one industry standard hardware platforms. Operating System: Open System i.e., Linux, Unix (any), Windows etc. The System should support more than one industry standard operating system. Database: Open Industry standard – Relational Database - The system should support more than one industry standard RDBMS.		
M	**Application Server:** RISC-based/CISC-based: Mention Units, No. Of Processors, Memory etc.		
M	**Product Architecture:** Based on open systems and use industry standard platforms and technologies. Core application based on an n-tier architecture Browser based thin client as per industry standard. Support for TCP/IP Support Symmetric multi-processing Support Multi Company, Multi Book and Multi Currency, Multi-Location, Multy-Country Capability to be deployed over a high latency network. Specify latency tolerance. Support for distributed computing Ability to interface with 3rd party software like card management system, transaction switching system, IVR and other delivery channel management system using ISO 8583 messaging. Ability to monitor server process and automatically bring up the replacement. Support for 24x7x52 operations for all delivery channel like ATM/POS/Internet		

	banking/IVR. Remote monitoring and administration of application servers. The System must have Multi-Server Processing/Processing Load Balancing Capability Thin client must be able to support 4-6 users on a low bandwidth (64kbps) connection. **Parallel processing as a way to minimize response time for a transaction.**		
M	**Product Security:** Support for industry standard protocols such as https, SSL, RC4 Ability to plug in third party algorithms for security. Provide for ensuring that unauthorized users be denied system access.. Robust applications level security and access control. Support for purging of data. Audit trail functionality provided by the product. Archiving method employed for audit trail logs. Online alerts for security breaches. Menu, Screen, field level security management system		
M	**Network Security:** Secure transmission between Branch, Division, Control Offices and the existing host Please describe security features offered by your system to avoid unauthorized access over the network. Blocking display during entry as well as during display (Inquiry) Log record for network access both authorized and unauthorized attempt.		
M	**Security Reports** Reports on unauthorized Log-in attempts and Control for application migration from development to production and other violation reports. Facility to Print/View Reports on-line.		
M	**Software Product Information – General:** Original date and authorship of the product; Date and version number of last major rewrite or revision; Major enhancements made to the system in the past 2 years; Major developments planned for the next 2 years; Number of existing users world-wide; Number of current implementations in progress; Position in World Ranking of the proposed On-Line BAS		
M	**Software Maintenance:** Bug fixes carried out process. Vendor provides tailored programming services with their charges included in the offer. New releases provided to the clients free of cost (Licensing and Customization cost). Mention the down time to Implement the new release. Bidder must provide all types of support and maintenance to the bank on the basis of 24x7x 52. Facility Management function at the 1st level support to be carried out by the bidder from the Bank's premises and the Bank will provide all logistic support i.e. chair, table, telephone etc.		
M	**Implementation:** Please indicate the tools along with a brief description of each one. List down and describe the project's inherent risks and the steps to reduce them. Please provide some real examples of risks encountered and how to mitigate them. Please provide the composition of the project team with requirement from. Describe for each role of the, responsibilities, required abilities, and task. The vendor should list the committees to be used. Describe their aim, function, participants and frequency. Please provide the various deliverables as part of the project plan. Please provide a draft project schedule. Including the estimated task sequence and duration. Define the project stages, indicating the tools, participants, responsibilities, and contingencies if any, for each one. Describe the data purifying tasks included in the plan. Describe the data conversion model proposed; please indicate the track record of converting data form various applications. Describe the methodology to be used for testing. Please elaborate on the migration strategy – Big Bang, Pilot office, etc.		

M	**Support** Local, trained and experienced, support MUST be available.		
M	**Documentation and Training:** Please provide details on the various training programs - duration, number of resources, location, etc. End-user training and any customized training programs if required. Cover the following areas in the documentations - Installation Guide (5 copies) - Administrator's Guide (10 copies) - Module-wise User Manuals (5 copies for DC & DRC each; and 1 copy for each & every branch) - Security Manual (5 copies) - Customization Documents (10 copies) - Quick Reference Guide (10 copies) - Data Dictionary (10 copies) - Consolidated Release Notes (10 copies) These documentations should also be supplied in CD/DVD (electronic form). Adequate documentations for various job profiles - Administrator, Technical staff, Business team/management end users, customization team, Periodicity of updating of these documentations.		
M	**Functional Issues** Preferred network Maximum number of simultaneous logged-on users supported by the system. Logging all details of a transaction – Please explain what details are logged for the On-line transactions.		
M	**Proposed Systems should have capability of handling multi processors.**		

''M'' indicates Mandatory Requirement. If the vendor's response to a Mandatory Requirement is "NO", then the bid shall be treated as technically NON-RESPONSIVE

8.03.3.0 Functional & Technical Requirement.

Vendor's Response to Functional & Technical Requirement of On-Line CBS (This must be completed and submitted by the vendor with the technical bid).

Requirement	**Compliant**	**Modification**	**3rd Party**	**Non-compliant**
General Requirements				
Technology Details				
Database Server: RISC-based/ CISC-based. The system should support more than one industry standard hardware platforms.				
System must support more than one industry standard, open operating system.				
Software developed using Fourth Generation Language (4GL) and on a RDBMS approach.				
The System must support more than one industry standard RDBMS				
Software MUST operate in Centralized processing mode				
Other Requirements				
The systems MUST provide options for an on-line real time integrated solution but should also allow off-line processing.				
24 hour on-line operations link (future)				
Different modules of the system should be isolated – one module should not be able to access / corrupt the address space of another. The proposed system MUST be modularized.				
The Hardware/System software proposed MUST support setting up different isolated environments.				
The proposed system should be capable of being expanded (by way of adding new modules) to cater for possible future customer oriented features such as ATMs and Internet and Telephone banking.				
System MUST be able to capture customer signatures for display at teller positions.				
System should also be able to capture photographic image of customer and display as required.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Recovery				
System Recovery				
The system MUST be recovered up-to-the-minute without any loss of data in the event of				
Power Failure				
A Machine Failure				
A Disk Crash				
Database Corruption				
File should be locked until all necessary rollbacks are completed.				
The system MUST support a smooth transition to a backup machine with minimum disruption to branch operations.				
Please indicate how the roll-back of transactions is performed in the following cases:				
Message received at host, but database not updated due to host system failure				
Message received at host, database updates, but response not sent to Branch due to host or network failure				
Message received at host, database updated, response sent, but not acknowledged by branch within time-out period				
Message sent by branch, after which branch times-out on the response and sends duplicate message				
Are time-outs for transactions configurable? Can they be defined on a per-transaction or per-branch basis?				
Client/Server Architecture				
System MUST act as a server to the Branch Automation and other (future) Satellite systems.				
Support Message-Based Client –Server communication.				
Software should be a browser based thin client as standard. The Browser client is a GUI thin client accessed through IE 6 or above and compatible network browsers. The browser client should provide a consistent and user friendly interface across all modules and applications within the application.				
Open architecture				
What are the proprietary hardware components in the architecture?				
Is the operating System a Proprietary system or an industry standard operating system?				
Does the platform (and operating system) support industry standard networking protocols (e.g. TCP/IP)?				
Support for ANSI SQL standard RDBMS: Does your database support queries using standard ANSI SQL?				
Database				
Tools for data migration				
Support for maintenance of data integrity between application and database.				
Capability to automatically detect, inform and reverse transactions that may be incomplete due to hardware failures				
Industry standard – Relational Database				
Parameterization/Global Parameters :Configuration of the system MUST be largely parameter driven, including				
Printer option				
Menu option				
Authorizing and approval limits (with security)				
System functions				
Branch level				
Product level				
Screen level				
Transaction mnemonics				
Calendar Definition				
Define Business, Non-Business Day in a Calendar.				
Define posting rule for a given type of transaction in relation to the calendar.				
Define Weekly holiday, Holidays as Regional, National, or Local.				
Provide an internal calendar that will track holidays, weekends, end-of-month, Half –Year closing,				

Requirement	Compliant	Modification	3rd Party	Non-compliant
end of year, number of days processed, last date processed, next date to be processed, statement cycles, interest application schedule, standing instructions, service charge cycles, etc.				
Parameter driven setting for the following:				
Interest behavior and nature per account type				
Creating and maintaining Product Group/ Type definition				
Service Charges, Fees, Commissions interest, Incidental charge, Excise Duty, Closing charge and other charges etc without code level change.				
Nature/ Behavior of Accounts				
System settings (Bank and Branch codes/Name, etc.).				
User settings/table				
Menu and system Security Levels				
Parameterized to change Rate of				
Rules of product calculation of interest without code level change.				
Functionality				
Software must be 100% function able of Rupali Bank Ltd. and is compatible with the Instruction Manual and prevailing rules of Rupali Bank Ltd.				
Product Handling				
The application system MUST be able to define and handle new products with minimal application software customization or reprogramming with no modifications to core software ensuring that the Bank's futures upgrade path and the software Customizations can be done through parameters.				
The application software should expedite processing of all product types or services that the bank will carry or introduce				
All functions within the application software are executed by use of menu options. The menus should be designed to fit the operating environment and can be easily changed by authorized officers at branch and Head office Level.				
The proposed system approach should be one of total flexibility and results in a system that can be fully adapted to meet the needs of its users. Control over modification is given through the use of tables, containing business and operational parameters, and utilities, facilitating customization of screens, enquiries and reports. The system does not use a fixed architecture that forces the client's business to conform to its business process flow. The system should use default parameters to drive each function of the system, so that the user can tailor the solution to meet the individual needs of the organization.				
Flexibility in maintenance of files MUST include the capability to:				
Electronically record all static file changes in a history file for on-line viewing audit trail. The minimum information should include – date and time of change, the value of the field before and after the change. All changes or updates done should be available in report form or on-line viewing when inquiry is performed.				
The proposed application software MUST have a centralized code management and control system to ensure data integrity and uniformity throughout all the application modules. The application software should have at least the following features.				
Condition codes may be attached to a customer's account number and/or customer number. This condition code can trigger alerts or reference information when transactions are initiated using the said account/customer number.				
Transaction codes will automatically be created by the application software acted upon, activated by another transaction or by time or by a batch run				
All branch abbreviations and codes should be easily available through the "Help System", by way of pull down menus, at the activated or current transaction screen.				
Change in rate information may be saved by the application software for "X" number of years.				
Rate information may be input at Head Office whether on a daily basis or at specified change dates.				
The proposed application software MUST be able to support all currency formats – zero, to four decimal places - as local or foreign currency or any other condition codes set by the user.				
The application software should provide the Bank the options of specifying in which format the dates are to be entered, displayed and printed by the system.				
User defined Input Defaults and Posting Parameter				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Input default will be displayed on new account creation screen and can be modified by the user				
Days notice (for notice accounts)				
Rate Maintenance				
Define Multiple Referential Rate based on currency.				
Identify active base rate for a given currency.				
Define multiple referential rates based on type of account, currency, rate type (Whether Debit Rate or Credit Rate).				
Modify referential rates for a given type of accounts.				
Allows maintenance of special buying and selling rates.				
EOD processing				
Average daily balance				
Automatic debit current accounts for on-us checks.				
Return check service/ penalty charges , value dating etc.				
Interest and interest adjustment				
Withholding tax adjustments.				
Report continue or recovery option in-case of interrupted printing				
End of Day rates can be maintained separately for the revaluation process as well as for exchange profit and loss calculations.				
Advices are generated automatically on approved transactions and can be sent directly on screen to an interface file in transmission on Telex, Fax etc.				
Reports can be generated automatically on/off line according to pre-defined criteria and frequencies.				
Added and Lifted hold out reports				
EOD/BOD Processing :				
User-Definable / fully parameterizable EOD/BOD processing				
Error Logging of EOD /BOD errors				
Fully automated EOD/BOD Processing				
Error Handling				
User-definable action in case of errors				
Ability to restart EOD/BOD from point of failure – automatic & manual				
Different Processing at Month-End, Year-End and Holidays				
Holiday Processing				
Value date computation				
Please describe the capabilities of your system in this regard:				
Transactions coming via ATM and other EFTPOS networks can be serviced even when the batch processing is in progress 24 hours availability of ATM's (future)				
Please indicate the time for which On-Line /ATM Transactions may be unavailable due to EOD processing etc.				
Batch Processing				
Simultaneous on-line and batch processing. Describe how balances are handled during the overlapping of batch/on-line transactions.				
Support for "split day processing" which enables any branch, which could not close for any reason, to operate on an earlier business day.				
What are the typical timings for EOD processing, given volumes outlined?				
Batch Recovery				
Re-run/ Re-start of batch process				
Re-run/ Re-start of print process				
Do the following have restart capabilities from point of failure				
Batch Processing				
Report Printing				
Other Issues				
Specify Minimum time for an emergency (controlled) shutdown of the application.				
Support for on-line backup. What is the extent of 'Currency' of data in such a backup?				
What is the expected backup time with the given volumes?				
Automatic archiving/ Restoration capabilities with Parameterizable period.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Support for Incremental & Full Backups.				
System Administrator Utilities				
Scheduling				
Ability to schedule activities throughout the day				
Both time and Event driven scheduling				
Printing of Schedules				
Network Administration.				
Start/Stop Line operations.				
Start-up/Shut down application operations.				
Import/ Export Utilities.				
Utilities for downloading data to other systems (e.g. PC's) in Industry – Supported formats.				
Support				
The system Must be readily upgradeable to take full advantage of future hardware and software enhancements.				
The system should be easy to implement and provides extremely flexible parameter-driven capability.				
The system should allow for easy adoption of new releases of functional enhancements and/or improved machine or system software features.				
The system should allow for easy and quick implementation of future internal, regulatory or market driven changes.				
All modules of the application software MUST get rate information from single rate file, which can easily be maintained by the Head Office.				
Version control on software components, both system software and application software supplied by the vendor.				
Have prescribed methodology for reverting to earlier versions of the software in the event of problems with newly installed software.				
Database Administration and Maintenance				
Setting up users, user groups and Permissions.				
Provision in Database for gathering performance statistics on access times, frequency of accesses of tables in the system.				
Please indicate what data is not stored in the database.				
How is this data synchronized with the database?				
System Status Monitoring & Recording				
Monitoring Transaction Queue from Branches, ATM etc.				
Monitoring Connectivity to Branches				
Monitoring Device Status, Disk full Condition Etc.				
Network Status Monitoring				
Recording of Exception Conditions.				
User Interfaces				
Multi-windowing capability				
On-line, context-sensitive help facility				
Error / action messages for wrong entries				
Graphic capability				
Use of colors				
Graphical user interface				
Consistency of the interface – screen layouts, messages, key stroke handling and other elements of the user interface should be consistent throughout the system				
Data input and validation at source				
On-line help				
Hot keys for access to common functions				
Other General Features				
Should be able to accept and process payroll payments from business customers				
Should be able to make payments, on Govt. etc. instruction, to customers/non customers, and reconcile same				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Interfaces				
All modules in the system MUST provide:				
On-line processing				
Real-time update				
Batch processing				
Customization				
The system should support easy customization, especially of the following features:				
Transaction details (data items)				
Functionality of each product category and the sub-products under it				
Operation details				
Input & output layouts				
Calculations, validations and default values				
Help screens and help levels				
Batch functions				
Output of reports				
Frequency of document generation				
Approval Authority levels				
Document Generation				
Documents can be generated automatically, immediately after the completion of a transaction, and / or according to the generation criteria specified by the end-users				
The end-users can decide whether to generate the document for a transaction.				
The contents of the document including data items and the layouts can be defined by the end-users.				
Cross currency exchanges can be applied before the actual debit or credit of accounts. Conversion calculation will be handled automatically by applying the exchange rates extracted from the exchange rate table.				
The end-users can select to override the defaulted figures by using spot rate or forward contract or even a combination of them for the exchange, with proper authorization levels.				
System should be able to support To capture the Collateral details to be linked to a loan facility. System should also allow maintaining the details of collaterals taken. The collaterals can be receivables, time deposits, shares, title deeds, investments, Fixed & floating assets etc. To keep record for movement of security documents through safe in & safe out register. To confirm Lien marking (one to one, one to many, many to many, even 3rd party etc) To provide auto generated client wise lien confirmation / withdrawal , eligible security and security release (By product, RM, Branch, Business Division with specific date range) To provide pop-up before Encashment of security Further lien on that security (if the loan is disbursed against 3 rd party's security/FDR To have Security valuation track record To remind the expiry of security revaluation / maturity (FDR) Sanchaya Patra (SP), Bonds etc To provide audit trail for replacement of the security.				
System should be able to support Classification and provisioning of Loan portfolios/ Asset as per Bangladesh Bank guidelines, product wise and borrower wise.				
Reporting Features				
Reports can be separated according to different processing branches.				
Reports can be generated automatically immediately after the completion of a transaction, and / or according to the generation criteria specified by the end-users				
The contents of the reports including data items and the layouts can be defined by the end-users.				
The Software Development Toolkit should have the utilities to enable clients to customize the system locally. Screen, Enquiry and Report Designer and other utilities ensure that front-end development is achieved with a minimum of effort with all the following utilities: • Report Designer • Enquiry Designer				

Requirement	Compliant	Modification	3rd Party	Non-compliant
• Report Generator • Screen Designer • Menu Designer • Database Designer • Data Dictionary • Template Programming				
Environmental and Security				
Requirement				
MUST be capable of operating in Real Time with Time Stamp				
Must have Comprehensive Documentation				
Software is easy to customize, enhance and maintain.				
On Line and quick backup / recovery capabilities				
Vendor MUST assist in conversion and migration of the existing data to the new system formats.				
Software : - MUST be easy to install, configure and maintain.				
Audit Requirements MUST have:-				
Logging of details of a transaction – what details are logged?				
Operational controls				
Controls on data integrity				
System Controls				
Historical and Audit trail reports				
EDP audibility				
As a standard, controls MUST be parameter based, dynamic and flexible to meet changes in business environment				
User Profile, Log-in Protection: the Security Management System checks each activity against the user profile to determine acceptable and unacceptable actions. Unacceptable actions are prevented and recorded.				
Password Control: Each user signs on with a unique sign-on name and a password. The password must be changed at a frequency defined by the security officer.				
Data Security: It is possible to make certain data inaccessible to specified users or user groups.				
Should have multiple levels of users with strong password management and capability/authorization list and conform Bangladesh Bank security guidelines.				
Ability to encrypt passwords and customer-sensitive data based on industry-standard encryption mechanisms.				
System must have the provision to print out on-demand Audit report.				

08.03.3.1 General Ledger

Requirement	Compliant	Modification	3rd Party	Non-compliant
Support calendar of fiscal business year accounting				
Support user-defined accounting periods				
Define different accounting periods and fiscal years				
Include effective from and to dates in master files to distinguish codes not applicable to all accounting periods				
Support both cash and accrual accounting				
Support balance forward accounting				
In the event of a hybrid of centralized and distributed processing modes in respect of distant branches and/or type of application, GL consolidation should be handled by the system.				
Inquire online into all accounts and transactions, including master, summary, and detail records for current period, prior periods and prior year periods, at the bank, division, department or zonal level.				
On-demand General Account Extract for Originating and Responding				
General Account originating entry list for each Branch and HO (periodically)				
General Account Responding entry list for each Branch and HO(periodically)				
Daily Income & Expenses Statement				
Daily Cash Book				
Subsidiary Ledger by Name				
General Account Posting				
Monthly Income & Expenses Statement				
Income & Expenses Comparison				
Statement of Affairs				
Statement of Interest Suspense account (Party Wise)				
SBS-1, 2, 3, 3.1				
Weekly report				
Account Codes				
Create and maintain accounts and account information online				
Add and delete cost, profit, or work centers with automatic duplication or deletion of required accounts				
Segregate revenue and expense accounts by division, departments, branches and cost or profit center				
Flag inactive accounts online if date of last activity is in the prior year and account balance is zero and prohibit inactive accounts with zero balance from appearing on reports and financial statements				
Prohibit inactive accounts with zero balance from appearing on reports and financial statements				
Transfer or consolidate accounts and automatically combine all detail transactions				
Journal Entries				
Maintain a table of journal entry reason codes for journal entries				
Support one common entry point for all GL transactions				
Create and post journal entries online or in batch				
Create multiple batches of journal entries at one time				
Automatically accept and post journal entries from other systems				
Require each journal entry to have a unique number				
Accept only balanced journal entry transactions (debits equal credits)				
Look up account numbers and descriptions during entry				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Allow unlimited number of entries to the same account within a journal				
Post only batches of journal entry transactions that are balanced				
Close a batch of journal entry transactions that is not balanced				
Enter and maintain statistical information either along with or independently of journal entries				
Enter and maintain one-sided transactions that contain statistical information only (no journal entry)				
Create automatic recurring journal entries				
Processing				
Create one or multiple charts of accounts for divisions, departments and zones				
Post all transactions received from other systems to a GL suspense or holding, pending review and adjustment before actual posting				
Produce edit exception reporting for all transactions posted to the GL from other systems				
The application software must have the capability to generate general ledger transaction and , if required , to interface and integrate with a third party general ledger system				
Prevent posting the same item twice				
All necessary account entries must be automatically generated and passed on to General Ledger system.				
Inter Branch Encashment				
Identify and process accruals with automatic reversal in the next accounting period				
Post to next year before prior year is closed				
Post adjustments to prior fiscal year				
Perform unlimited closing cycles				
Keep the previous year open for at least one accounting period (the period can be pre-defined by the user) while processing transactions for next year				
Ensure at year-end close that all entries are in balance and that all periods have been closed				
Automatically post accrual/reversal entries after closing				
Transfer profit/loss account balances to retained earnings at year end after accommodating for dividends				
Allow different company entities to close independently (e.g. division)				
Post all GL transaction line items to multiple, user-defined distributions, at any level within the account structure (e.g. across companies, divisions, accounts)				
Automatically roll-up detail accounts to summary accounts				
Support the requirements of foreign currency activities				
Support statutory accounting and reporting.				
Crediting/Applying of Accrued Interest could be Monthly, Quarterly, and Half-Yearly as defined by the user in the Interest Cycle.				
ADB computation on all accounts				
Foreign Currency Maintenance				
Maintain currency exchange rates online				
Maintain multiple rates for each currency with associated effective dates				
Maintain currency on entry in the currency ledger, amount and base currency amount with position control account				
Create user-defined exchange rates using effective from-date and to-date range				
Create forward rates and cross rates in the foreign exchange rate tables				
Automatic analysis and revaluation of balances for each currency and automatically				
generate entry to the unrealized currency gains/losses account				
Maintain financial information on the system in the foreign currency and in base currency				
Maintain separate income and expense ledgers for each currency with its own control account				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Permit default currency exchange rate to be overridden during transaction entry				
Produce a report showing all instances where default currency exchange rate was overridden				
Support foreign currency conversions within intercompany transaction processing (for foreign companies)				
Consolidate multiple companies with different functional currencies				
Store historical exchange rates for purposes of converting net worth accounts				
Automatically calculate the foreign translation adjustment and post to the balance sheet				
Revalue month end account balances and record exchange gain or loss				
Maintain postings and account balances in local currency				
Revise budget data based on changes in exchange rate				
Online inquiry of transactions and balances both in foreign and domestic currencies (i.e. especially in respect of foreign currency transactions).				
Produce transaction ledgers in multiple currencies with local currency as base currency				
outstanding balance and hedging against an outstanding commitment				
No Interest will be accrued if the Ledger Balance is less than the minimum amount quoted in parameter file.				
Consolidation				
Support a user-defined number of levels of hierarchy within the bank wide GL				
Specify consolidation hierarchy and level for each responsibility center at time of set up and modify on request				
Create and maintain files containing levels of consolidation of financial information (e.g. cost or profit center, division, department and company)				
Permit different consolidation hierarchies with separate effective dates at the same time				
Specify for each consolidation request the starting point, sequence of lower level entities and the level of depth to be performed				
Assign account numbers to specific units of the overall organization				
Maintain historical ownership percentages within the system				
Calculate consolidated goodwill based on cost of investment and equity				
Allocate assets and expenses used jointly by two or more industry segments				
Recalculate prior period consolidated amounts when ownership or consolidation structure is changed				
Save and retrieve historical consolidated information under user-specified control				
Print financial performance analysis by division, department and corporate structure				
consolidated, providing flexible reporting of user-defined financial ratios compared to similar ratios for the previous period, the same period last year and year-to-date				
Software should capable to consolidate one GL from the system by tagging/uploading data from Off-line branches.				
Report Writer				
Allows an unlimited number of financial reports for balance sheet, income statement, supporting schedule, and other user specific account analysis				
Allows the user to control the row and column format, size and print mask				
Can perform statistical calculations such as percent to total, or other statistical analysis of accounts				
Allows the user to specify accounts for inclusion by:				
Natural account number				
Profit center/cost center				
Range of account numbers				
Range of account numbers with specified exceptions				
Allows the user to specify the contents of each column with no restriction. (e.g. Current month, Current budget, Year to date, Budget to date, Last year to date)				
Inquiries				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Account inquiry				
General ledger master data - account numbers, descriptions, and account roll-up information				
General ledger amounts - amount charged month-to-date by general ledger account				
Transaction history inquiries				
Detail transactions by general ledger accounts - all general ledger transactions month-to-date				
Cost center - total month-to-date charges by account				
Department - total month-to date charges by account				
Risk Management				
Maturity wise rate sensitive assets & liabilities (07 days, 15 days, 30 days & above)				
GAP analysis/Estimation of Cash Flows in different time bands (15 days, 30 days, 90 days etc.)				
Segment wise Loans & Advances				
Concentration of Loans to a single sub-sector				
Listing Top N Loan defaulters				
Off-balance sheet items (Maturity wise segmentation)				
Interest rate wise segmentation of Loans & Deposits				
Range/Slab wise Deposits				
Intra Office/ Branch transactions				
System should generate a unique reference number for each office transaction (Debit or Credit transaction). e.g. Expense advance, etc.				
System should accept any transaction made to balance an existing debit or credit should be against the unique reference number				
All Item processing systems are supported as well as intelligent fine sort, cycle sort, exception item processing, bulk or standard filing, on-line reject and end point analysis.				
Capability for Double Entry Verification.				
The system should capable to support the reconciliation (Inter branch transaction) to be made or take place between On-line Branches and Off-line Branches.				
Reconciliation				
Manual Reconciliation option				
Reconciliation Statement				
Branch To Branch Reconcile Statement				
Date To Date Reconcile Statement				
Un-reconciled Originating Statement (Originated but not Responded)				
Un-reconciled Responding Statement (Responded but not Originated)				
Memo for Un-reconciled Originating List to be Responded (for sending to Branch)				
Memo for Un-reconciled Responding List to be Originated (for sending to Branch)				
Branch Wise Balance				
Un-reconciled Originating List To Be Responded By Other Branch				
Branch To Branch Un-reconciled Statement				
Date To Date Un-reconciled Statement				
Un-reconciled Bangladesh Bank Monthly Statement (Monthly Statement of Un-reconciled Inter-Branch Transaction)				
Branch Wise Ledger				
Manual Reconciliation Log Statement (Manual Reconciliation Report)				
Search Duplicate Advice				
Un-reconciled Responding List To Be Originated				
Advise Wise Un-reconciled Statement				
Auto Reconciled Adjustment Statement By Date Wise				
Manual Reconcile Statement By Date And User Wise				

08.03.3.2 MIS and Reports

Requirement	Compliant	Modification	3rd Party	Non-compliant
Create and maintain reporting responsibilities identifying the reports and levels of detail that individuals/position should receive				
Interfaced Transactions - Lists all transactions received from automated interfaces and any related balancing or exception errors				
Financial Statements (Income Statements and Balance Sheets)				
Creates multiple versions of financial statement reports customized to user specifications with alternative formats across companies and divisions				
increase and decrease over similar balances to the previous year and also show budget variances				
General Journal - Lists all journal entries including posting date, source journal.				
Generate reports such as journals, logs, audits trails, transaction reports and account based reports.				
reference, account number, debit and credit amount and comments				
Recurring Journal - Lists all recurring journal entries				
Chart of Accounts - Lists all general ledger accounts				
Budget and History - Lists current year, actual, budget and prior year actual amounts for each accounting period or a selected range of accounts				
Ability to maintain budgets for any figure on any database. An unlimited number of 'budget types' provides the ability to hold budgets for any amount (e.g. budgeted income, margin, investment, etc.) and for any purpose (e.g. original budget, revised budget, etc.). Budgeting may be performed at any level within the database.				
Budgets may be set at any point within the system and these will be automatically checked for variations each day. Alerts can be issued to show significant variation				
Enables the automatic generation of empty budget structures for all combinations, which currently exist on the database.				
General Ledger Detail Report - Printed at period end by transaction reference, within transaction date, within account and sub-account number sequence. The report should optionally be printed on a year-to-date or at month, beginning balance forward basis				
Summary Trial Balance - Summarized listing of all account activity for the accounting period, including open and posted transactions				
Transaction Register - Lists transactions by user-specified ranges of periods, accounts, transaction types, transaction dates, amounts or any combination thereof				
General Ledger Trial Balance - Prints the GL trial balance, showing by each account number the beginning balance, activity, and new balance. User should be able to specify all accounts or selected accounts only				
Revenue and Expense Analysis - Lists all revenue and expense accounts for each reporting period on a comparative basis for both current period and year to-date				
N-Dimensional profitability analysis. Management Information containing revenue, volume, cost of funds and other management information on products are capable to be processed in the system. The user has complete control of the contents and may use any metrics available within the corporate database.				
Risk adjustment of profitability.				
Provides an automated and integrated transfer pricing mechanism that accurately allocates the funding cost to each contract and account in the system. Match and pool funding is available. Secondary costs such as liquidity charges may also be automatically charged in a similar way.				
The system will automatically allocate expense across different departments depending on a user defined matrix. Allocation of these indirect costs enables the Bank to get a clearer view of each profit center's contribution.				
The results of the analysis can be presented as reports, as files or as part of the systems standard on-line interface. Ability to see various elements of a customer 360° overview including the to-date				

Requirement	Compliant	Modification	3rd Party	Non-compliant
profitability from that customer.				
Summary Statement - Prints assets and liabilities statement (financial position statement or balance sheet)				
Ad Hoc Reports - Provides an interactive tool for creating user-specified reports that access, select and sort on any field within the database; calculate values including arithmetic, percentages, variances and statistics; create new fields and compare between columns; create multiple subtotals and grand totals; access current period, prior period and prior year data; print to printer, screen or disk; save and modify versions; and download in standard PC/Mac spreadsheet or database format.				
Cash Flow Forecast - Expected sources and uses of cash based on anticipated payables (established budgets, open invoices and outstanding purchases), anticipated receipts (open invoices and pending customer orders) and projected payroll expenses.				
Cash Flow Analysis - Projected cash requirements for the next four weeks and the next two months.				
Comparative Income Statement - Customized income statements by customer, product showing budgets, income, expenses, and net profit or loss for the current month and year-to-date. Should also show percentage increase and decrease over similar balances to the previous year and also show budget variances				
Differences in inter-branch reconciliation				
Differences in Reconciliation with other banks				
Deposit trend with mix				
Interest rate wise total deposit				
Variance between budgeted & actual deposit				
Branch wise total deposit mix and growth				
Graphical presentation of total deposit				
Graphical presentation of scheme deposit				
Graphical presentation of budgeted & actual deposit				
Graphical presentation of fund position				
Loans and advances trend with mix				
Interest rate wise Loans and advances				
Branch wise loans and advances mix and growth				
Graphical presentation of budgeted & actual advances				
Branch wise deposit and loans and advance ratio				
Product wise loans and advance trends				
Graphical presentation of Product wise loans and advance trends				
Branch wise Budgeted and Approval position				
Graphical presentation of weighted average interest rate on Call Money rate of TBL & Market rate.				
Statement of Investment in Treasury Bills.				
Maturity Lists of Inter Bank Placement - FDR.				
day to day cash requirement				
Regulatory Compliance Report.				
Graphical presentation of Monthly Budgeted & Actual operating profit.				
Bangladesh Bank prescribed report for Minimum Capital Requirement				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Bangladesh Bank prescribed report for Stress Testing				
Detailed worksheet of Bangladesh Bank report				
Credit Rating Mapping				
Auto generation of reminder against irregular account.				
Loan Documentation Check List(status)				
Loan Statement (regular/SMA, Classified Account with interest suspense)				
Segment wise Loan and advances (agro factor, automobile, cement and building materials, chemical and pharmaceuticals, edible oil, energy and power, fisheries, steel and engineering, textile and garment, food and allied construction, Trading telephone and transport others with %)				
Geographical location wise loan and advances (district wise, division wise with %)				
Large loan borrower statement (including funded and non funded)				
Top N Loan defaulter statement				
Recovery statement (cash reschedule write-off top 20 etc)				
Consolidated statement of EOL(including branch wise breakup)				
Early alert account list(branch wise all category)				
Daily loan account lists(branch wise with /without RRDH)				
Classification of borrower in terms of corporate. SME, Retail depends IBD etc.				
Slab wise loan consolidation (SBS-1,2.3.)				
Statement of legal case status (detail)				
Provisioning				
Software should have adequate flexibility to reproduce all statement for regulatory y body and internal requirement as well from the given input				
CTR and STR Reporting				
Transaction Monitoring (Red Flags)				
STR Reporting				
Auto generation of statements where TP is exceeded				
Interfaces				
Data Entry - Summary distribution of income, value added and special charges				
Deposit System - Summarized information for current, savings and fixed accounts.				
Loan System - Summarized information for loan portfolio				
Ability to interface with all other Banking Applications (CIF, treasury, Etc.)				
Ability to define and change the chart of accounts.				
Ability to consolidate accounts into ; branch groups department groups product groups				
Ability to allow users to define account structures where each digit can be assigned by users.				
Ability to have; Monthly closings Quarterly closing Semi-Annual/Half-Yearly closings				

Requirement	**Compliant**	**Modification**	**3rd Party**	**Non-compliant**
Annual closings User defined closings				
Ability to provide report comparisons by Prior ; a) Year b) Month c) Quarter d) Any previous month in the current year.				
Ability to make adjustments after closing With automatic updating of ; a) current financial data b) retained earnings c) historical profit and loss d) assets & liabilities				
Ability to interface to exchange rate information for Foreign Trade revaluation.				
Ability to provide multi-currency conversion and consolidation.				
Ability to accept unbalanced entries; a) with screen warning b) with automatic printed report warning c) with supervisor override before posting				
Ability to store journal entry description fields.				
Ability to keep historical data for a user specified period of time				
Ability to produce the following financial statements according to user defined formats; a) balance sheet b) income /expenditure summary c) income /expenditure details d) income /expenditure comparatives e) this year actual versus last year actual f) budget versus actual g) this period's actual versus last period's actual h) statement of changes in financial position summary. statement of changes in financial position details.				
Ability to provide a trial balance detailing ; a) account number b) account description c) beginning of day balance d) current day movements e) end of day balance f) total daily debits / credits for each G / L g) foreign currency amounts with local currency equivalents (for foreign currency equivalents h) FX rate utilized for each foreign currency transaction i) user-id for each transaction j) batch number for each transaction				
Ability to provide financial report to any user defined level				
Ability to provide ; a) suspense account details report b) accepted journal entry reports				
Ability to report actual results compared to historical on the following basis : a) Current month vs. same month in previous year. b) Current month vs. previous month. c) Current year-to-date vs. previous year-to-date				
Ability to report actual result compared to budget on he following basis:				

Requirement	Compliant	Modification	3rd Party	Non-compliant
a) current month versus current month budget b) current month variance c) current month as % of budget d) year-to-date versus year-to-date budget e) year to date variance f) year to date as % of budget				
Ability to allow on-line Inquiry on accounts : a) in the current month. b) in the previous month. c) any specified month previous to current month				
Ability to support budget input on a monthly basis				
Ability to allow input of next year's budget				
Ability to provide forecasting				
Ability to include cost allocation in the budget process.				
Ability to control access by ; a) Password mechanism. b) user defined usage profile				
Ability to restrict access to individual work stations.				
Ability to record and report access violation attempts.				
Ability to keep ; a) date b) reference c) source information about every transaction				
Ability to automatically settle the internal accounts and generate reports (inter branch settlement).				
Ability to enter data related to financial entities through magnetic media for later settlement of accounts (Central Bank, National Banks, and Foreign correspondents).				
Ability to define related income / expense and receivable / payable accounts; a) according to G / L code. b) according to product type				
Ability to: a) set up automatic reconciliation accounts b) list outstanding (non-reconciled) items.				
Ability to open G / L accounts from the master G / L account index / table for branches automatically.				
Ability to produce profit and loss statements and balance sheet daily.				
Ability to provide daily average balances of G / L accounts on monthly basis.				
Ability to keep the local currency equivalent for all G / L records and during the trade account revaluation process, convert / update local currency equivalents of all G / L records in foreign currency.				
Ability to reconcile and report ; a) total ledger balances of customer accounts b) other records (such as securities inventory outstanding checks, outstanding L / G records, etc.) with related G / L balances (if separate G / L records are kept in the system.				
Ability to set related G / L accounts with counter G / L's in order to be reconciled and reported accordingly.(ex : G / L account A's balance should be equal to G / L account B's balance, or G / L account A's balance should be equal to the sum of G / L accounts B, C and D's balance)				
Double entry accounting				
Validation of equal debits & credits				
On-line update & display of a/c balances				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Add / modify / delete accounts				
Journal entries on-line or in batch				
Unique number for each journal entry				
Permit only balanced journal entries				
Separate accounts for each branch, with facility to obtain bank-wise consolidation.				
Generation of Profit / Loss report, at any point of time, with facility to incorporate the interest accrued (but not actually booked) up to date?.				
Statement of any account between any two dates				
System generated (unique) transaction number assigned to each transactions.				
Facility to enter a code at the time of transaction input to enable segregation of transactions for MIS reports ?				
Default transaction codes be specified for different types of transactions, with ability for user to override during input.				
Does the system provide a facility to continue processing at end-of-day, should validation errors occur, by transferring invalid transactions to a user designated suspense account?				
Consolidate the specified account balances of a group of branches.				
Comprehensive audit trail which enables tracing of transactions to, input terminal, creator, date and time of input, authorizer				
General ledger fully integrated with all the modules of the Banking system.				
Facility to `download' information from the general ledger system to other PC based system for further analysis and reporting?				
Standard reports generated by the general ledger system should include:				
general ledger listing				
Trial balance				
Balance sheet				
Profit and loss account				
Balance sheet and profit and loss report be generated for each branch, for selected groups of branches and for the bank as a whole?				
Maintenance of reporting formats for balance sheet and profit and loss to meet different reporting requirements such as management requirements?				
Balance sheet by value-date & by transaction date.				
Reports by branch, by business segment (functional unit) and by a combination of both?				
Transaction listing, segregated into cash, clearing and transfer, with control totals				
A daily audit trail of all transactions.				
Control totals of transactions				
Consolidated statement of all income, expenditure, asset and liability heads for each branch.				

08.03.3.3 Deposit Module.

a) Demand Deposit (Current, Savings etc.)

Requirement	**Compliant**	**Modification**	**3rd Party**	**Non-compliant**
Parameter Driven/product Set up				
Interest behavior and nature per account type				
Creating And maintaining Product Group/ Type definition				
Service Charges				
Nature/ Behavior of Accounts				
Withholding tax ranges and tax exemption				
Average Daily Balance computation on all accounts				
User settings/table				
Currency and exchange rates				
Dormancy period requirements				
Multiple accounts may sweep into or out of a simple target account				
The application software must be able to track the history of an account for:				
Average available balances				
Average ledger balances				
Average collected balances				
Number of times overdrawn without sufficient funds, with dates.				
Number of times overdraft				
Number of times overdraft interest not serviced or fully serviced.				
Number of Credits/total credited amount				
Number of Debits/total debited amount				
Facility to define various charges for different activities of Savings Bank account or Current account				
Set-up and maintenance of interest rates				
Interest rate options must be flexible, simple, compound, tiered etc and based on cleared balance, average balance, minimum balance etc.				
User-definable interest rates for debit and credit interest, which can be amended with appropriate authority.				
Functional Issues				
Facility to calculate provision amount automatically (overdrawn accounts)				
System to display accrued interest at all points of time. Facility to apply accrued interest at any time and also at the time of the closure of account.				
Facility to apply different rate to special accounts (e.g. staff accounts)				
Interest application frequency should be a parameterized value, for any type of account or transaction				
Interest to be credited to account as per the parameterized frequency				
Automatic application of overdraft interests (debit interest) in case a/c is overdrawn. Interest on debit balance is calculated on daily balance and applied either as per the parameterized frequency or when balance is in credit.				
Different options to be available as regards debit interest where overdraft is approved/not approved.				
System to also provide flexibility to waiver charge for an individual transaction, with appropriate authority.				
System should allow user to define whether service charges can be debited below minimum balance				
Specify restrictions on no. of withdrawals for SB a/c and track no. of withdrawals on monthly / quarterly basis. Flexibility to levy or waive charge if withdrawals exceed restricted amount.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Accrue interest based on ledger balance or negative balance account				
Service charges formulation				
Can be in the form of:				
Flat flee charged against the account balance				
A percentage of transaction amount				
A factor of a percentage				
Tiered flat flee				
Tiered flat percentage with minimum and maximum amount charges				
Allow the bank to define, modify, delete, or inquire about the service charge rates, fees and other additional costs applicable to specific types of transactions.				
Bank Products Supported				
The proposed application software must be designed to allow creation and definition of banking products to be controlled and affected by the authorized business user. Products can be defined or amended in a matter of minutes. The application software must be able to support a wide range of account types including, but not limited to:				
Current / checking				
Premium checking accounts				
Savings accounts				
Call accounts				
Fixed term deposit accounts				
Short term loan accounts				
To reduce service charges an account type may be defined to receive credit, which is specified by the user.				
Account flags				
Automatically activate flags that will identify:				
General				
Breakdown of single deposit amount to different bills payments and fund transfers				
Amount transfer between deposit accounts				
Automatic fund transfer facility				
Accept Telegraphic Transfer for Non-depositor Recipient				
Bills Payment				
Petty cash replenishment				
Automatic debit current accounts for on-us checks.				
Return check service/ penalty charges				
Interest and interest adjustment				
Withholding tax adjustments.				
Automatically generate Credit Memo/Debit Memo request form for approval.				
Minimum Balance - SB or Current				
Define minimum balance to be maintained on each type of account on a daily, monthly, quarterly, etc. basis. The minimum balance requirement may vary between customer's accounts having checkbook and those not having checkbook.				
Minimum balance may also be based on average balance in the account. Calculate average balance for any specified period (e.g. monthly, quarterly, etc.).				
Minimum balance calculation can be of two types: Actual or Average.				
In case of default in either of these two calculations, system should levy charges.				
Recording of inventory and usage of security documents e.g. Cashiers Cheques.				
Printing				
Report continue or recovery option in case of Interrupted Printing				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Spooled Printing of Reports				
No-book transactions for passbook savings.				
Automatically print statement and notice when an account is dormant due to “no activity” (for a pre-defined period) other than crediting of interest				
Account Opening				
Maintains proper Customer Relation Manager in every deposit account				
Requires authorization of account				
Facility to open a/c either by cash, cheque or transfer from another branch				
Automatic generation of account no. at the time of opening an account				
A customer can have various accounts, at many branches, in different currencies, of different types, and they can be accessed by a unique customer number.				
Up to a maximum of six(6) signatories for joint, company, club/association/trustee accounts etc.				
Recording of opening, increases, decreases and closing cash balances.				
The system must allow for changes on account conditions including back valued changes. The interest calculation must be able to handle any changes and recomputed the interest to those changes, for any back valued period determined by the bank.				
Facility to input Know Your Customer (KYC) and Transaction Profile (TP) information.				
Grouping of accounts for offsetting balances and calculating interests and charges.				
Dormancy Processing				
Feasibility of generating a report with an age-wise analysis of dormant and inoperative accounts.				
Back Dating/Forward Dating				
Back-dating Transaction Process				
Back Value interest and Fees Calculation				
Statement of Accounts				
Automatic generation at defined frequency for each account				
Option for not generating statement for some accounts				
Generation of mini statements / on the spot statements				
Flexibility to generate statement for all accounts and/ or only the accounts with transactions since last statement.				
Flexibility to generate statement for past one year and/or any specified time interval				
Facility to charge customer for statement sent by other than ordinary post, duplicate statements, and ad-hoc statements				
Facility for distinguishing statements to be posted and those to be held at the branch (HOLD MAIL).				
Choice to customers of passbook / statement. This choice can be for each account of a single customer				
Automatic generation of statement of accounts due each day before EOD.				
Noting and generation of statement of accounts on customer request.				
On-line generation of statement of accounts.				
Specification of form size while printing statements of accounts.				
Certificate of balance in different currencies.				
Cheque Management				
Automatically dishonored cheque if not on series, out dated etc. with date indication				
Post Dated Check Monitoring				
Track no. of Cheque books issued and charge for same as applicable				
Stop payment and “good for payment” authorization				
Auto check and not tom pay already paid and duplicate cheque series				
Signature/Photograph				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Ability to capture of signatures, thumb imprints/bio metric stamp and photographs wherever required				
Signatures may be retrieved and viewed for any customer in any branch with mode of operation and name/designation of the signatory				
Support uploading of scanned signatures into the central database in batch and online modes				
Support storing of scanned signatures in compressed format				
Support storing signatures encrypted				
Support zooming/rotating of signatures with various levels (3 levels)				
Overdraft				
Insufficient Available balance				
Account closed				
Dormant account				
Unclaimed Monies				
Stopped payment advice				
Hold amount				
Frozen				
Call officer				
System to support routing of all foreign currency transaction through central office, IBD Account.				
Reports				
Registered Transactions				
On-line Transaction (per branch)				
On-line Transaction (other banks)				
Deposit Reports				
Withdrawals Reports				
Bills Payment Report				
Transfers				
Error Reports				
System Up/Downtime Report				
Report Generation Facility				
Security				
System to provide full audit trail of the following :				
Transactions - additions				
Transactions - deletions				
Transactions - amendments				
Master file - additions				
Master file - deletions				
Master file - amendments				
Parameters - additions				
Parameters - deletions				
Parameters - amendments				
The audit trail can be:				
Shown on screen				
Printed				
The system provides comprehensive audit trail features such as :				
Daily activities log are merged into the history log files				
Date, time and user-stamped transaction checklist are on-line generated for different transactions.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Detailed information including G/L entries generated, processing users and documents generated are registered in the transaction checklist				
All transaction screens should display system information including Function ID and Name, Processing Date, Current Time, Current User				
Daily activity reports are provided to highlight all the transactions being processed during the day				
Audit Journals provides the information needed to cross verify all data entered into the system and will be used mostly for audit and historical purposes.				
Are the following supported:-				
Demand Draft Issuance List				
Demand Draft/Pay Order outstanding List				
Check Book Request				
Un-posted transactions				
Static file changes				
Posting Journal				
Exception monitoring report				
Non monetary transaction report				
Inward clearing listing				
Ledger Balance Listing				
Dormant & Unclaimed Monies Accounts list				
Directory				
List of Overdrawn				
Non Performing Customer Accounts				
All reports dated and Page Numbered				
Support for 3rd Party Audit Tools.				
General				
Has the system has been evaluated by an independent assessment to attest the reliability of the system covering both hardware and software? Please provide information.				
System to provide security at:				
data element level				
transaction level				
set of transactions level				
functional level within each application				
application level				
user level				
System level				
Branch level				
System Security Control				
System Access Control				
Logical controls on the application /system software				
Control Access to system Utilities.				
Log all accesses to system utilities with name of user, date and time of access.				
Log In Time and date of application /System software used for Authorized access and Unauthorized access.				
Forced Log-outs of terminals for continued inactivity beyond user-specified time.				
Forced disabling of passwords on a certain number of unsuccessful log-in attempts.				
Warning to be generated for Unauthorized Log-In attempts				
Prevention of unauthorized access to the system and the data in the system.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Log off all Log –in attempts (Successful/ Unsuccessful)				
User cannot simultaneously Login from two stations.				
Access to the system commands is prevented by controlling the startup procedures for all the stations.				
Access Control				
By Unique User Identifier				
By date & time Ranges				
Access to Menu Function at any Level.				
Access to special customers (Staff/VIP, etc.) can be restricted to specific users.				
Data Integrity				
Controls to detect the Loss of Data or the Non-Processing of data				
Controls to assure the complete and accurate processing of data				
Data in the file is accurate and complete.				
Access rights to the system are suspended after three invalid attempts.				
Reactivating of a suspended access to the system requires a supervisor authorization.				
Access rights to the system must have an expiry date.				
Password				
Passwords may be changed by the user at anytime, but a force change of password must be imposed at regular intervals (monthly?)				
Passwords must include a flexible number of alpha-numeric characters, with a minimum of 6 characters.				
Passwords will have an expiry date.				
Re-use of same password for consecutive two terms must be prohibited				
A Maintenance Log report must be provided.				
User ID and password control				
Control can be set up down to transaction level or down to different combinations of the transactions				
Facility to define end users who under no circumstances will be able to go to the command prompt or operate directly on the operating system. The end users must always be linked to either a menu or an application after they are signed on.				
The Proposed application software must record all changes to the parameters and master files. This maintenance log contains information on the field(s) changed, the original and the changed date, the user ID, workstation ID and the date and the time of the change.				
Security system allows authorized user to define the menu options that the staff in branches or head office may execute				
Commonly used names to be listed as Prohibited passwords, which no user can use as Passwords.				
Dual Password Control by system administrators on User Profiles and Passwords.				
Single User ID/ Password access to all the systems.				
User ID must allow names up to 15 characters.				
Parameter definable Number for unsuccessful/wrong attempts resulting disabling the user ID.				
Disabling User ID on X Non-Consecutive unsuccessful Log-In attempts during the day.				
Approval Authority Control				
User profile to specify the authorization level of each individual end-user in the transaction approval process				
The authorization level can be defined so that for the same transaction type different end-users can approve transactions of different amount				
Number of approvers required for a particular transaction type and depending on the amount can be specified in the user profile				

Requirement	Compliant	Modification	3rd Party	Non-compliant
User Defined Transaction Codes				
The proposed application software must have a centralized code management and control system that will ensure data integrity and uniformity within. It must either be:				
The security module must allow branch/Head office to define employees, the branch attached to, the menu options or functions accessible and even workstation from which they can operate.				
All menu selections must be logged as branch may wish to track activities of specific users.				
Any user can be locked out of the system.				
Capability to set up a user based on another user's profile.				
Financial Transaction limits that can be defined by transaction, by subsystem, at a system level.				
Establishing users that can be assigned to different branches.				
Data Consistency Control				
During transaction input, fields are automatically validated to ensure the validity and consistency of data				
Automatic linkage among the various products ensures the consistency of data between these products				
Automatic generation of G/L entries and all kinds of documents provide additional control features to safeguard data integrity and consistency of data flowing between each application system and other external systems/networks.				
Purge information from system as defined by user.				
The application software must be able to retain in file all closed accounts for "X" specified number of years				
Provide a full set of operational and audit trail reports for each of the modules.				
Misc.				
Must support both Inward and Outward clearing functions.				
Clearing can be between both local and outstation banks. This also includes clearing of instruments between two branches of the same bank.				
Two branches of the bank may be connected on-line. In case of inter-branch connectivity, system to support on-line multi-branch transactions for clearing				
The system should support various types of clearing including :				
Non-MICR				
MICR collection (Future)				
Inter bank				
High value clearing				
National clearing				
Other Functions				
System should provide support for new technology clearing interfaces/ devices				
System should be able to support on-line posting as well as batch posting. System to suggest measures for double checking of batches posted to ensure correctness.				
System should be able to handle Clearing House settlement between On-line Branches and Off-line Branches, Multi book and multiplications.				
Facility to inquire on cheques in clearing by cheque no., cheque date, account no., batch no., date of clearing etc. Facility to sort on any key for inquiry				
System should provide analysis and monitoring of the net clearing position (Deficit vs. Surplus) of a branch on a daily basis.				
Automatic on-screen warning for accts. w/ Returnable Check				
Automatically unpay dishonored check series				
Cheque number and stop payment instructions to be validated before cheque is paid out				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Post dated Check monitoring				
Automatic monitoring of Post Dated cheques is enabled.				
A cheque number once paid should not be allowed to be presented again for payment (Already existing in Cheque Validation)				
Check floats settings per area				
Selective downdating per area				
Provide facility to automatically store, and make available on inquiry, information such as when and where cheque is presented and cleared, whether cleared or stopped, payment to which bank etc.				
Therefore, the system should support individual cheque information access facility, for successful and returned cheques				
Generation of auto-referral to manager in case of insufficient funds (limit access approval by manager only)				
Generation of consolidated bank-wise statement				
Debit to customers accounts in case of valid cheques				
Facility to maintain database of reasons for cheque return				
Voucher format can be user definable				
Automatic charging of accounts in case cheques are returned (at discretion of bank)				
Generation of bank wise list of cheques to be returned				
Able to determine the number of days flow for each collection item before the amount is automatically credited and made available to customer.				
Able to single out collection items and make funds available to specified account.				
The following dates/states to be supported				
Clearing date or entered date: The date on which cheque is deposited in the bank. The date on which posting is made to account as "uncleared funds".				
Closed date : Funds are cleared and available to customer for withdrawal				
System to support deposit of cheque drawn on other branches of same bank or drawn on other banks (local & outstation)				
Automatic charging of fees in case of returned cheques. Waiver of charges permitted at bank's discretion				
Statement of cheques returned unpaid from other banks/branches with reasons				
System to support re-present option for those cheques which have been returned unpaid				
Floats				
Able to move floats either before or after end of day processing.				
Able to link to the calendar file to ensure that national or local public holidays are considered before the float is moved.				
Centralized and automated with capability of transferring data off-line to a regional or national clearing houses.				
The significant dates / states to be user definable. The system to take into account weekends and holidays in the clearing cycle. Option for interest to accrue from any day, as specified by the user.				
Interest may accrue on the account from post date or even from close date. Interest accrual dates may even differ between cheques for savings account / current account and those for fixed deposit account.				
The system to accept information on holidays for all or some banks in the days clearing. System to support overriding the clearing cycle in some exceptional cases				
Selective downdating per area				
Outstation clearing				
Input cheques sent for outstation clearing				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Generation of 'cheques lodged today' report				
Input cheques realized				
Generation of 'cheques realized' report				
Support accounting entries for Lodgment				
Support accounting entries for After realization				
Interfaces				
MICR Reader (Future)				
Reports				
Generation of consolidated statement bank-wise of amount 'due by them'. Details of statement to be user-defined				
Daily status of net amount 'due to' or 'due by' clearing house.				
Generation of reports in the Central Bank format.				
Detailed enquiry listing for each branch of a bank - for internal purposes				
Bank wise listing of cheques for outward clearing				
Final Clearing sheet to be sent to the clearing house				
Cheques returned unpaid (out) - Highlights all cheques that were sent out as part of outward clearing, but have been returned unpaid.				
Cheques returned unpaid (inward) - Highlights all cheques that were received as part of inward clearing, but have been returned unpaid.				
Check floats settings per area				

b)Term Deposit.

Requirement	Compliant	Modification	3rd Party	Non-compliant
System should offer flexibility to easily define and operate any new type of deposit scheme(s) within the existing deposit module and/or modify the features of existing deposit schemes.				
Support for multiple currency options				
Facility to store minimum and maximum deposit amount and minimum and maximum time period, for each type of deposit				
Support for maintaining settlement instructions of each account				
Facility to maintain and view at transaction time, the operating instructions for an account.				
Support for marking multiple liens on term deposit account				
Account Opening				
Support for different categories of entities opening an account. e.g. Individuals, Partnerships, Joint, Ltd. Company, Clubs/Association etc.				
System should support account opening by :				
* Cash				
* Cheque (local clearing or outstation clearing)				
* Transfer from another branch				
* Transfer from another account of the same branch				
* Pay-Order or draft				
If account is opened by transfer from another existing account in the same branch, system should validate the cheque, check the amount, debit source account and credit FD account				

Requirement	Compliant	Modification	3rd Party	Non-compliant
If cheque is submitted for opening deposit account, account should be opened only after cheque is cleared (value dating of transaction)				
Facility to maintain and inquire account opening details				
Deposit can be opened with a value date (back value as well as future value date)				
Automatic generation of account no. at the time of opening. A common customer code and varying account should link all accounts of the customer codes.				
For a new customer - generate new customer code				
For an existing customer - use existing customer code to generate a new account code.				
At time of opening, maturity date and maturity value to be calculated, with and without taking into account tax to be paid, where applicable				
If maturity date is a holiday, system should have provision to calculate additional interest for the holiday period, in case of encashment of deposit. This should not be mandatory.				
To What extent is back value dating accepted.				
System should be able to generate new deposit receipt for renewal				
At time of opening, Face value, Deposit value (discounted value) and maturity date to be calculated, based on principal of discounting				
The formula for discounting and calculating the Face value should be user-definable and modifiable				
Interest Calculation				
Provision to input back value date at the time of Transaction.				
Back Value Interest & Fees Calculation				
Ability to calculate maturity date and interest amount when opening account (time deposits, recurring deposits etc.)				
Customizable interest rates and interest calculation, depending on deposit period, deposit type, etc.				
Interest can be simple or compound :				
*Simple Interest:				
Interest payment by cash, pay order or transfer to savings account or current account				
*Compound Interest:				
Interest is reinvested with the principal or applied to another, designated, account				
Flexibility to compound for any period (e.g. daily, monthly, quarterly, etc.)				
Pre-mature encashment of deposits, interest calculation/adjustments.				
Facility to apply different rates to special accounts (e.g. staff deposits)				
System should be able to calculate interest for any period defined by the end-user (e.g. daily, quarterly, etc.) and as and when required				
Support for crediting interest at any frequency (monthly, quarterly, etc.)				
Tax deducted at source				
Calculate Tax Deduction at Source and automatically adjust account				
Interest calculation for TDS purpose should include all term deposit accounts held by the customer at the branch. User should be able to define whether a type of deposit is to be considered for TDS calculation or not.				
Time of credit of the account of the payee				
Time of payment or whichever is earlier.				
System should first credit the interest account with the full interest and debit the TDS account with the tax amount, rather than crediting the net amount to the interest account				
Facility to define standing orders on TDS payable account for payment				
Payment at Maturity				
System to trigger an alert if loan against FD is outstanding at the time of maturity/ premature closure of FD. Loan amount to be adjusted against maturity proceeds before making payment.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
System should not allow payment until loan account is closed.				
System should support payment by cash (only payments less than X amount?), cheque, pay order or transfer to another account.				
Support payment of principal into one or more account, (cash or cheque)				
Maturity reminder (for fixed term deposit accounts)				
Support payment of interest into one or more account, (cash or cheque). These accounts can be different from the accounts for principal payment				
Rollover/Renewal				
System should support automatic rollover as per the terms of standing instructions (e.g. Interest & principal, interest only, interest and part of principal, principal only, etc.).				
If no settlement instructions given by depositor, system must/to support rollover on the existing terms and conditions or allow transfer to overdue account.				
A new deposit receipt is to be issued on rollover				
System should allow rollover on existing conditions and/or new conditions.				
System to automatically recalculate interest amount using new interest rate.				
New rate of interest to be applied from date of renewal. Penal interest to be waived if period of renewal exceeds left over period from previous deposit.				
If not rolled over, system should automatically transfer the deposit to overdue deposit account.				
System to permit adjustment of interest when a fixed deposit is broken				
TDs as collaterals				
Interface to loan module to avail loan against the deposit.				
Facility to define eligibility criteria for availing the loan and amount available for loan				
Facility to mark lien against deposit for loan availed				
Facility to put limit on loan account				
Facility to stop closure of deposit account if loan is outstanding. User definable alert or override support				
Facility to define interest chargeable on the loan. This rate could be variable fixed, tiered or x% over fixed deposit rate.				
Facility to attach fixed deposits to other loans by the account manager at any time during loan period or deposit period				
Printing				
Deposit Receipt printing to be available on opening and rollover				
Support for user definable layout of Deposit Receipt				
Printing of maturity letters, thank you letters, welcome letters				
Facility to maintain passbook or statements instead of FDR				
End of Period Reports for control purposes				

c) Foreign Currency Accounts

Requirement	Compliant	Modification	3rd Party	Non-compliant
System should support account opening in Foreign Currency.				
The exchange rate may vary on a daily basis or remain constant over a period of time. It may also change number of times in a day.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Auto transfer arrangements				
Withholding tax ranges and tax exemption				
System to allow periodic input of base exchange rate for different currencies				
System should allow overriding of the base rate for specific transactions, with appropriate authority approval				
Any exchange difference to be automatically debited / credited to Exchange Difference account.				
Taka equivalent to be calculated by the system by multiplying the foreign currency amount by the predetermined rate				
Support for maintaining multiple types of exchange rates for a currency				
All foreign exchange transactions to be routed through NOSTRO accounts. Facility for periodic reconciliation of NOSTRO Accounts				
System to allow charging of service charges wherever desired. Rate and need to charge service charges is left to the discretion of bank. Service charge could be flat, tiered or variable.				

d) Other requirement of Deposit account.

Requirement	Compliant	Modification	3rd Party	Non-compliant
Interest bearing where the interest rate may be:				
Fixed				
Floating				
Multi-tiered				
Banded				
Non- Interest Bearing				
Define Account Rules				
Facility to define the period after which the HLA becomes eligible for drawing loan against it				
Deposits/Unitization :				
The whole deposit to be held in units of user definable amount.				
Every unit to be held as a separate account on the system. The account numbers for each unit should be auto generated by the system.				
One deposit receipt to be generated for entire deposit amount, instead of one receipt for each unit.				
For premature withdrawal, only requisite number of units required to honor the amount to be broken. The balance will earn the original rate of interest.				
System to apply penal rate for units withdrawn and recalculate interest amount				
For 2-in-1 deposits, a savings bank/ current account to opened and linked to the 2-in-1 account.				
If the customer opens subsequent 2-in-1 account, these accounts should also be linked to the same savings / current account.				
Cheque book to be issued against savings/ current account				
System to support account to be opened in foreign currency				
System should allow any no. of units to be broken at a time, without breaking the entire deposit. The units to be broken should be chosen by the user				
Automatic check that only whole units be broken and only requisite no. of units be broken to honour amount. For 2-in-1 deposits, balance amount to be credited to linked account.				
Payment to be made for principal amount of units withdrawn and interest earned on same.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Facility to disallow loans against 2-in-1 deposit. Loan against cluster deposits should be available				
Certificate of Deposit				
Facility to allot many instruments for a single deposit and printing of multiple receipts for a single account				
Each of the instrument should be for at least the minimum amount defined and thereafter in defined multiples				
Branch Teller Operations				
Teller Operations to support the following functions :				
Cash deposit in any account type				
Cash withdrawal from any account type using withdrawal slip.				
Withdrawal of cash using cheques. (Since a cheque is being used for withdrawal, cheque number, stop payment instructions to be validated)				
Other Functions				
The system should be able to support denomination wise stock in hand at teller position and the main safe / vault.				
Facility to waive or reduce exchange charge for a class of accounts or specific accounts				
System should also provide flexibility to waive/ reduce the charge on specific transactions , for any account, with appropriate approval				
System should allow the user to define what amendments are possible in the instrument details, without canceling the instrument				
Facility for on-line approval of transaction by auto-referral to the appropriate authority				
On accounts with allowable overdraft option, define the number of days allowed before the expiry notice is generated.				
Allow user to make changes to deposit processing dates and certain interest parameters before the end-of-day processing is activated				
Multi-level Sweeping of Account				
Able to generate credit/debit advice for the above transactions.				
Define priority account for transferring of funds.				
Define a secondary source account other than the primary source amount.				
Multi-currency transfer of funds				
Sweep instruction that can be changed/ deleted				
Authorizations				
Transaction Validation Process				
Menu and system Security Levels				
Override security levels (by disbursement limit and transaction type)				
This can be done by authorization by a superior level user only.				
Local & Remote Override with Queuing facility.				
Debit on savings account not to be allowed without Manager approval i.e. facility for auto – referrals				
Facility to put specific accounts, if needed, on auto referral.				
If an account is inoperative for a pre-defined period, such account to be made Inoperative / Dormant				
Feasibility of restricting the viewing of signature for dormant and inoperative accounts is restricted to certain authorized personnel.				
Cheque Transactions				
Foreign Currency Cash Purchase and Issue in cash.				
Cheque deposit for a cheque drawn on another customer of same branch				
Cheque deposit for a cheque drawn on another customer of same bank but different branch				
Cheque deposit for a cheque drawn on another customer of another bank in the same city/ different cities				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Cheque deposit to have interface with the clearing module.				
Provide the flexibility of entering cheques on 'Entered date' either in batch mode at back office or entry of single cheques at the teller on a on-line real time basis.				
Clearing module should then be able to access these cheques. For such cheques, credit to be given to customers account and debit to the relevant clearing account.				
Foreign Currency Services				
This can be a stand-alone service or form an integral part of teller platform for deposit & withdrawal. All facilities available for domestic teller operations should also be available for Foreign Currency Teller transactions.				
Transaction can be of the following types :				
Currency tendered or asked for is same as the currency in customer's account (e.g.. deposit or withdrawal of dollar from a dollar denominated account.)				
Currency tendered or asked for is different from the currency in the account (e.g.. deposit of dollar in Taka savings account, or deposit/withdrawal of yen in dollar account).				
The customer sells one currency and wants to purchase another currency. In this case, the system to support base currency transactions				
Accounts to be maintained in Taka and foreign currency for each transaction.				
Printing of transaction / advice/ deal slip after completion of transaction.				
Facility to input whether the transaction is a buy or sell deal and the relevant currency code				
System to automatically display the relevant rate and calculate the details of the deal				
When deal is accepted by the teller, system to print deal slip giving relevant details.				
When deal is accepted by the teller to automatically update, necessary accounts and stock positions.				
The current exchange rate displayed should be amendable at the base level as well as on a per transaction basis, with superior authority				
The system must offer facilities for the following foreign currency transaction. These cover foreign currency remittance and teller facilities.				
Purchase and sale of Foreign currency cash				
Issue of foreign currency draft / TT				
Encashment/ clearing of foreign currency cheques				
Purchase and sale of travelers cheques				
Currency Position Revaluation Frequency for the Branch.				
The teller may sign off temporarily at any time during the day without balancing his positions. This must be done with the entry of user ID and Password.				
For all transactions, the system updates the position figure for each teller and the amount involved. For each type of position (cheque/cash), totals are held which can be used to reconcile with the branch's General Ledger.				
Facility to view cash position for each teller at any point of time. Similarly, facility to view consolidated cash position for the branch at any point of time (without closing cash position).				
A list of all transactions, function wise, (Cash deposit, cash withdrawal, cheque deposit, etc.), to be generated. Rectification of incorrect entries to be allowed in each function.				
A report on branch totals is to be produced when all the tellers in the branch have completed the 'Final sign off'.				
At start of the day, facility for teller to authorize the 'Opening cash position' and the breakdown by denominations.				
Reconciliation of cash as per system with cash in hand. Difference to be automatically sent to appropriate authority for approval				
Teller Support Facilities				
There should be function keys for frequently used functions (Hot keys)				

Requirement	Compliant	Modification	3rd Party	Non-compliant
The teller must be able to scan at any time his journal on the terminal to view transaction log, amount, account number, code, etc. or to trace errors.				
System should provide a basic calculator function, (as a stand alone facility or as an integral part of input transaction) which can assist in tasks such as :				
Summing a list of values				
Calculating interest				
Converting currencies				
Calculating percentages				
Calculating averages				
Facility to record the denominations of currency used in any cash-in or cash-out transactions, i.e., a cash analysis facility to divide the deposit and withdrawal into various denominations.				
System to provide Teller functions in Taka and Foreign currency. Number and type of Foreign currency to be user definable.				
System should support exchange of currency, denomination-wise, between two or more tellers and between customer and tellers				
System should also support tendering of change to customer, denomination-wise. It should automatically up date cash position of the teller.				
System to support inter-branch cash transfer. The details to be captured include Branch codes, Advice no. and date, amount, etc.				
Cheques Drawn on Another Customer of the same Branch				
Facility to debit and credit two customers of the same branch. The system to support on-line as well as batch posting. System to suggest measures for double-checking of batches posted.				
System to display account details of account to be debited and credited				
Provision for printing of customer advice				
The system should support multiple debit / credit entries in one posting screen. i.e. multiple debits with single/ multiple credit or vice versa.				
On-line Control and Memo Processing				
Whenever a customer account is selected for posting, the system should display:				
• Transaction Number • Transaction Date • Value date • Account Number • Account Name (All names in case of joint account holders) • Cost Centre / Profit Centre number and name • Amount • Account Currency • Particulars/Narrations • Dr. / Cr. Indicator • Entry & Authorization user				
Option for edition/deletion of any field				
Notes or memos on the account, e.g. '2 signatories', valued customer etc.				
Account currency				
Account limit and available balance (Cleared and Unclear balance)				
Signing instructions				

Requirement	Compliant	Modification	3rd Party	Non-compliant
System should display a warning message on the screen whenever the account limit is exceeded by the transaction or a stop cheque instruction is given				
Transactions with these warning messages must require supervisory approval before they can be accepted. Otherwise transaction to be rejected.				
Facility for displaying details of all notes or memos recorded on the account during the business day, e.g. notes relating to supervisor referrals.				
The system should able to auto-generate the reversal entries to the related accounts including G/L once the original transaction is being reversed. The system should exclude those reversals during data analysis and MIS and there should be audit trail for all reversals.				
The teller must be able to view customer's signature on screen for verification and his signing instructions				
Facility for teller to make on-line inquiry on a customer, his address, his account details, e.g. account type, account debit limit, details of last transactions (Date, Balance, Memo Notes, etc.)				
Facility that allows the teller to inquire on all clients using various search methods. The search criteria to be user definable. (e.g. alphabetical order, matching name, etc.)				
Facility to allow user definable transactions for viewing, amending, deleting and creating records, e.g. opening or amending new accounts, changing addresses, setting up or amending standing orders, stop cheques, cheque book request, etc.				
Display Screen Facilities				
Name				
Civil Identification Code				
Account Opening				
Branch Account				
Currency				
Account Type				
Residency Status.				
All functions must be executed with use of menu options which must include:				
Maintenance Screens				
Input Fixed Data				
Change Fixed Data				
Interest Rates				
Create New Accounts				
For Fixed Tier deposit product Types:				
Creation and maintenance of Fixed deposit Details.				
Creation and maintenance of fixed Deposit interest rates				
Inquiry screens				
Display customer accounts in operation				
Transaction history from Date 1 to Date 2				
Balance and account status				
Today's transactions				
Interest rates				
List of dormant accounts				
Directory				
Accrued interest				
Fixed Term Deposit certificates information				
Foreign Cheques for Collection				
System should support pooling of transactions from branches not authorized for dealing in foreign currency at an authorized branch				
Facility to maintain a FCBC register				

Requirement	Compliant	Modification	3rd Party	Non-compliant
FCBC transaction number to be automatically generated by the system. Each transaction should contain the Inter Branch Reconciliation (IBR) code for tracking the originating branch				
Cash-In/Cash-Out, Tellers' Total and Reconciliation				
Printing & Reports				
Printing of Cut Form, Mini-Statement and Draft				
The application software must be able to generate various types of reminders or notices with difference balance on different types of accounts.				
The system must support cut form printing for account lodgments/withdrawals showing details of tellers, date, time amount and total				
The system must support the use of passbook transactions. Passbook layouts and transactions should be user-definable				
The system must allow printing of a mini-statement on demand, e.g. the remaining transactions after the issue of a periodic statement. The mini statement layouts and transactions should also be user-definable.				
Printing of teller log book / cash book should be done separately for each teller and collectively for the entire bank.				
Printing of cash analysis report, for each teller and consolidated at branch level				
For every transaction relating to a customer, a customer transaction confirmation advice should be printable.				
Fast Pathing (Direct access to a function/screen) without having to traverse all the menus.				
Message Broadcasting facilities to all the online users				
Off-line Support				
A facility is required to switch an on-line branch teller to off-line mode when problems develop on the telecommunications connections or at the host computer site. All subsequent transactions input are to be marked as 'off-line' transactions.				
When line is restored and connection is re-established, system should automatically switch to on-line mode and the transactions marked 'off-line' should be automatically transmitted to the host or main server.				
The system must be designed to operate over the telecommunication connections such that there is no loss of data or file damage in the event of communication line failure.				
It must be possible for a teller to resume his work immediately after the telecommunication line has been reconnected.				
Fields should be available, to define the maximum on-line and off-line value. The values can be for a transaction, or for a user				
Batch Input and Device Support				
Other financial transactions not captured at the teller position, e.g. posting of clearing remittances or transfer batch entries, (where a number of debit transactions balance with a credit item and vice-versa) can be entered at the back office in batch and the batch checked and balanced before it can be posted.				
Other than keyboard input, the system should provide support for connecting other				
Devices such as swiped card reader.				
Salary processing capability				
Capability to accept Electronic Input.				
Automatic Transfer of Funds from corporate account to employee account.				
Precision				
Support minimum 4 decimal places for currency amounts. What is Maximum decimal number of decimal places supported?				
Locker				
Locker and Locker Account maintenance				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Cash Management				
Requirement				
Existence of Individual Teller's Cash Proof Sheet				
Existence of Reserve Cash Sheet				
Head Teller's Cash Distribution Record				
Cash In and Cash Out Register				
Cash in Vault Position				
Vault Management Register				
Cash Register (In Local Currency)				
Cash Register (In Foreign Currency)				
TC Register				
Prize Bond Register				
Evening Banking Register				
Utility Bill Register(Electricity/WASA/Telephone/Mobile)				
Secondary Data Facility				
MIS				
Closing				
CIB				
CL				
SBS-1				
SBS-2-3				
Reconciliation for CIBTA				
Reconciliation for IBFETA				
Foreign Transaction				
Weakly Position				
Sector wise Deposit				
Cash Transaction and Suspicious Transaction				
Any other reports as per requirement of Bangladesh Bank				
Audit Menu for all type Auditor				
Operating Systems				
Database System				
Auditing the Network				
Auditing The Application System				

8.3.3.4 Remittance (Local & Foreign)

Requirement	Compliant	Modification	3rd Party	Non-compliant
Remittance is to handle the following transactions involving funds transfer :				
Demand draft (in Taka and Foreign Currency). This includes inward and outward remittance. Demand draft also covers pay orders.				
Telegraphic Transfer (TT) (in Taka and Foreign currency). This includes inward and outward remittance.				
Whether system supports capturing details of remittance including remitter's name, remitting bank (for inward remittance), correspondent bank's name, amount of remittance, purpose of remittance,				

Requirement	Compliant	Modification	3rd Party	Non-compliant
country of remittance, beneficiary's name, beneficiary's bank name (for outward remittance) etc				
Whether FDD & FTT can be issued in a automated manner through the module (for outward remittance)				
Whether fund can be automatically credited to the beneficiary's account after giving necessary input in the system (for inward remittance)				
Whether report can be generated for remittance received from a particular country, for a particular time period, for a particular currency, for a particular beneficiary etc.				
Whether search engine is available in the module to find out details of a remittance using amount of remittance, remittance ref. no., country of remittance, date of remittance etc.				
Instant Cash Facility.				
Whether Independent module is available in the core software to process the inward foreign remittances received from different exchange houses (to be disbursed in cash or in other form) by the central foreign remittance cell of head Office				
Functions Supported				
Mail transfer (in Taka). This includes inward and outward remittance.				
The system should support multi-currency draft issues, printing and clearing. All details required for the printing of the draft to be provided upon transaction input.				
System should automatically generate the instrument number				
System should allow processing of transactions in both on-line and batch mode. On-line includes processing of individual transactions at the front-office. Batch mode includes processing of set of transactions at back-office.				
Instruments can be issued to customers and non customers				
System to validate that instruments are issued only on				
places where a branch/ correspondent bank exists (for DD, TT, MT)				
self (for PO)				
Can be issued against cash or by debiting account of customer, at the same branch or another branch. I.e. System should support multi-branch transactions.				
Commission				
Facility to store and apply flat/ tiered charges for issuing instrument of various denominations. These can be changed as per requirements and should be user-definable				
Facility to charge additional charge for issue to non-customers. This charge also can be flat or tiered				
Facility to mark certain accounts for automatic waiver of commission charge with appropriate authority.				
On-line Enquiries				
For on-line operations the proposed application software must be able to:				
Generate real-time on-line debit/credit entries for updating to accounts.				
Provide an on-line inquire facility to view information.				
Provide On-line Account Statement Display & Print				
Provide on-line exception processing				
The frequency or period of interest calculation				
Minimum balance to accrue interest				
Maintaining balance of the account				
Number of transaction for service charging.				
Resident and non-resident tax rates				
Drafts and Pay orders (hereinafter referred to as drafts)				
Facility to automatically generate branch serial number-speedometer.				
Printing of demand drafts in user definable formats				
Facility to print draft in pre-printed stationery				
Reconciliation of outstanding balance/ pay orders on periodic basis. The frequency should be user definable.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Facility for transfer of outstanding pay orders beyond a cut off date/period to central office with relevant details				
Automatic updating of draft issue register				
Issue of duplicate drafts				
Facility to record pre-requisite conditions for duplicate issue. Validate against these conditions before duplicate issue				
Facility to issue duplicate drafts, link with original drafts and print duplicate drafts				
Facility to customize the format of duplicate drafts numbers.				
Payment of drafts				
System should validate drafts number & stop payment instructions before payment.				
System should validate whether drafts are stale, and if so, allow payment only with supervisor approval				
Facility to cancel drafts and put stop payment on drafts.				
Facility to maintain stock of drafts by the system. Stock Register to be customizable				
A pay order once paid against or canceled should not be allowed to be paid again.				
Facility to record pre-requisite conditions for cancellation of a draft. Facility to cancel a draft and pay cash /credit customer's account with proceeds. Bank reconciliation account should also be updated				
Periodic automatic transfer of demand drafts issued to Central Office.				
Stop payment of drafts				
Facility to cancel demand drafts				
Ex-Advice demand drafts Payment Facility.				
Support for printing different currency drafts in different layouts. The layout to be customizable.				
TT/MT				
System should generate MT/ TT folio no. branch-wise				
System should check the continuity of the serial no. for every TT/ MT received and generate warning if link is broken				
System should allow re-initialization of the branch serial number, at a particular date or when the number reaches a limit				
Issue				
Automatic updating of MT/TT outward Register				
System should allow on-line authorization at a higher level				
Payment				
System to accept details of all MT/ TT received and automatically update MT/TT the Inward Register and outstanding register				
Facility to make payment either by pay order, cash or credit to account.				
System should automatically generate payment advice.				
Accounting entries				
Support for all transactions for issue/ payment/ cancellation and automatically make corresponding accounting entries				
Facility to maintain accounting entries separately under foreign currency as well as standard Taka account				
System should support :				
Inter branch transfers				
Conversion of currencies				
Transactions affecting NOSTRO account				
End of day reports				
Branch-wise report of drafts issued during the day on various branches				
List of pay orders outstanding – branch wise				

Requirement	Compliant	Modification	3rd Party	Non-compliant
System should support the following for FC funds transfer, both inward and outward :				
Facility to issue instruments in multiple currency. These could be in the same currency as the NOSTRO account or in a currency different from NOSTRO account but chargeable to NOSTRO Account.				
System to support passing of accounting entries :				
when the currency of the customer's account and draft is the same				
when the currency of the customer's account and draft is different. This would involve cross currency transactions.				
Auto generation of test key numbers in case of TTS. It should be sent for auto-referral.				

8.3.3.5 Travelers Cheques (TC)

Requirement	Compliant	Modification	3rd Party	Non-compliant
System to support transactions for purchase (encashment) and issue of TC.				
TCs may be issued and en-cashed for any Foreign Currency or for Taka				
Support for TC issue either by :				
Debit to customer's account, or				
Against cash				
Similarly, payment for TC encashment can be made by :				
Credit to customer's account or				
Cash				
Other Functions				
System to maintain Foreign currency Stock Register. The columns for this should be user definable.				
System should support printing of TCs in pre-printed stationery				
Encashment of TCs				
Maintenance of correspondent bankers account for en-cashing TC				
Reconciliation of TCs outstanding payment from correspondent.				

8.3.3.6 Loan and Advance

Requirement	Compliant	Modification	3rd Party	Non-compliant
System should provide workflow and imaging features to provide a generic method for the automation, control and management of complex banking processes such as opening a client relationship, and loan application processing. The automation of all processes can be handled through the workflow framework. Specific business processes should be created using this framework in combination with the relevant business transactions (tasks).				
The Loans System processes loan transactions to enable the Bank to provide loans and current credit facilities to its customers and to manage its exposure and customer relationships.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
The system should provide complete automation of loans processing, on-line. It should handle a full range of loan products to fit day-to-day operation needs and information requirements essential for management.				
The fundamental design principle behind this is that any process represents an extended unit of work which consists of a number of discrete tasks (transactions) linked together in a predefined sequence (or sequences) controlled by a number of decision criteria. Therefore the automation of all processes can be handled through a generic process workflow framework. Specific business processes can then be created using this framework in combination with the relevant business transactions (tasks). The Process Workflow module will enable a client to control and automate their existing front office processes in the same environment, which already processes their existing transactions. In addition, to the primary benefit of an automated process control mechanism there are numerous secondary benefits such as a single database, consistent and auditable process and transaction support all delivered through a single enterprise wide user interface.				
System should be able to support (online / off line credit approval system (real time/batch process, authority level) as per user defined Authority table. Authorities who enjoy delegation of business power for Credit approval.				
It should provide for management of credit exposure, as well as control of credit limits by accounts and by credit lines. The system should provide for interest accrual, amortization or payment according to users' pre-defined specification.				
There should be automatic generation of advice, such as repayment advice and drawdown advice. The interface facility should be secure and efficient.				
System control features, such as access control and approval authority control, should be well protected and should keep the necessary audit trail information.				
The system should cover a full range of loan products for a variety of consumer categories, including structured loans, participation and syndicated loans, in multi-currencies.				
System should be able to support to track Loans at different stages from origination to settlement.				
The system should allow the end-users to set up their own parameters for values which include :				
Provision policy on the basis of Bangladesh Bank guideline and Bank's Board policy				
Account Codes/ Customer Codes				
Advice Selection Parameter				
Bank Rate				
Branch Code				
Business Code				
Commission and Charges Code				
Country Code				
Exchange Rate (multiple rates for a currency)				
G/L Condition Code, G/L Parameter				
Interest Rate - for both credit and debit				
Interest Rate Type				
Different Category of Loan Type, Loan Category Like (Demand Loan, Continuous Loan, Project Loan(Small & Medium))				
Mail Advice Format				
Security Type				
Telex/SWIFT Advice Format				
Reference numbers for transactions				
Borrower type				
Others				
Powerful on-line enquiry utilities allow different access paths to the information which includes the current loan details as well as the historical information				
Access to Contract Information				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Online Credit Evaluation.				
Automatically compute the Amortization schedules.				
Automatic control of credit status (active, closed, delinquent etc) and ability to change the credit status by the user according to his authorities				
Loans register based on loans classification codes, as per National Bank of RT requirements				
Reporting on delinquent credits and interest with automatic penalties charge based on days overdue (e.g. Up to 30 days, 30 – 60 days etc.))				
Statutory reporting on non-standard Loans				
Provision (report) on planned repayments for given periods				
Credit classification facility based on mortgage type				
The system should provide reports to Management				
Track loan status from application to Closure				
Ability to store security/guarantor details.				
Ability to update valuation on collateral.				
Ability to track cost of funds				
Loan Application Processing				
System should be able to support **workflow** and imaging features in Loan application processing and credit Limit appraisal process.				
Facility to accept loan application details and record verification details. Verification can be against another integrated module such as deposits.				
Loans can be disbursed in different currencies.				
Automatic verification of loan eligibility against pre-defined criteria				
Facility to accept details for appraisal (such as income generation, Assets and Liabilities, take home pay, etc.). The details may vary depending on loan type.				
Support for generating appraisal note in user-defined format				
Facility to access application and appraisal note and update sanction or rejection details at appropriate authority level				
Status of the loan can be tracked from active to closure, including non-performing, write-off and suit file.				
System to periodically generate account-wise, a matrix of future deposit amount and projected loan outstanding under present conditions, to facilitate tracking loan mismatch				
Free text memo can be maintained for each loan in the system to record special information				
Classification of Non-performing loans according to the Bangladesh Bank Loan classification rules.				
Facility to accept details of Loans application. Following is an indicative list of the details to be accepted :				
Facility to update comments, accept/ reject details from multiple authority levels. The levels involved may vary according to the amount involved				
System should generate note to the party, indicating sanction or rejection and terms and conditions of the loan				
System should track whether acceptance letter from the party has been received				
System should automatically open a loan account and assign an unique account no.				
For a new customer - generate new customer code and an account code				
For an existing customer - refer existing customer code and generate a new account code.				
Provision to create a current account and link to the loan account				
Automatic generation of loan account. Generation of corresponding GL account heads				
Facility to accept or transfer margin money where applicable				
Documents handling/Generation & recording				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Facility to accept details, with reference to loan folio no., on documents submitted by borrower. E.g. application cum lien letter, title deeds, valuation report, etc.				
Documents to be generated by the system include :				
a. Repayment Advice				
b. Drawdown Advice				
The details can include document date, validity period, signatories, safe custody location, etc. (as applicable to a particular loan type)				
Facility to store details of various documents accepted/ generated during the different stages of the product life cycle. The details to be captured include :				
Document Name				
Document date				
Summary of document details (in a free text form)				
Document validity period				
Signatories of the document				
Storage location of the document				
Following is an indicative list of the documents about which information may be stored :				
Security documents				
Lease/ Rent agreement and Mortgage agreement				
Valuation report of the asset mortgaged/ put as collateral security				
Demand promissory note				
Term Loan agreement				
Deed of sale				
Certificate				
Disbursal				
Mandatory system check for completion of documentation before loan disbursement				
System to accept phased drawdown schedule and check funds request against balance before disbursal				
System to check funds request against balance before disbursal				
Automatic generation of G/L entries to safeguard data integrity and consistency of data flowing between the Loans System and other external systems/networks.				
Provision to record in the system details regarding regular follow-up activities such as site visits, latest information regarding borrower's status, etc. (i.e. Diary system).				
System should support disbursal in phases based on project implementation and generate schedule of payments				
Facility to amend disbursal schedule				
Checks to ensure funds are released only to the supplier(s) of the party				
Interest Calculation and installment collection				
Interest Calculation				
Different class of accounts can have different interest calculation methods (flat, tiered, etc.).				
Interest rates can vary for different class of accounts or individual account				
Support for EMI computation on simple and compound interest				
Interest can be automatically calculated, accrued and amortized, at any frequency, as specified by the end-users.				
Interest can be calculated and applied at different frequencies (daily, monthly, quarterly, etc.)				
System should support interest calculation at the following rates: fixed, variable + prime, variable '+/-' bank rate, or variable.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Facility to define variable interest rates and minimum and maximum interest rates. The rates typically will be Base Rate + a percentage. Rates can also be simple, compound, tiered, etc.				
Support for penal interest calculation for overdue amount				
Facility to maintain separate interest accrued account for NPAs				
Repayment and Monitoring				
Loan repayment can be by installments which are calculated automatically by the system. Provision for interest only payments, principal + interest, balloon payments etc. System should also allow for repayment holidays.				
Provision to accept repayment by cheque, post-dated cheque or automatic debiting of any other account				
System should generate periodical reminder to relevant party. e.g. employer of borrower, co-obligant, etc.				
System should generate report to borrower on status of post-dated cheques				
System should provide for transfer of deposit interest to loan account for loans against non-reinvestment deposit. Else, provision to update interest collected.				
System should provide for periodical checking of pending interest payments, reminders generation, report generation				
Different reminder frequencies can be defined for different loan types; reminders will be printed automatically at the end of each period				
Standard sets of advice can be printed on-line or in batch mode; users can change their own sets of advice for every transaction interactively without affecting the original standards				
Payment Default				
System should automatically generate end-of-period reports for irregularities in account performance.				
Different procedures can be specified for different periods of defaults. Corresponding advice/ reminder to be automatically generated by the system				
Provision to record all follow-up activities undertaken				
Provision to maintain customer health code depending on nature of default				
Provision to mark loan as NPA as per pre-defined criteria. System to automatically generate corresponding pre-defined reports/ statements				
Renewal /Rescheduling				
Renewal / Rescheduling option for the loan period, loan terms or both				
Provision to record details of Renewal / rescheduling of loan and record sanction or rejection from appropriate authority level, with or without the possibility of recourse				
Modification of loan terms could pertain to interest collection, interest rate, other charges - modification or waiver in part/ full, etc.				
Closure				
Automatic calculation of early settlement amount including loan outstanding amount, late charge, penalty and handling fee				
Provision to automatically close loan account and other corresponding accounts, if any				
System should provide checks to ensure a closed account is not included in future batch processes				
Loan can be against deposits with same branch or another branch				
Automatic warning to be generated if projected loan outstanding exceeds deposit amount				
System should support the following options for closure/ renewal :				
Closure of loan account on customer request/ discretion of bank, after adjusting any outstanding against the deposit amount				

Requirement	Compliant	Modification	3rd Party	Non-compliant
On pre-closure of deposit, loan rate to be changed and loan amount to be recalculated on daily balance method				
Renew deposit account, close existing loan account and transfer pending loan amount to new loan account (including rollover of loan in-line with deposit rollover)				
Close deposit account, loan account and remit proceeds to client				
Close Term Loan account and other registers				
Generate advice to appropriate authority to release securities held				
Monitoring of Suits filed				
System should be able to support monitoring, supervision and follow up of all court cases filed by the Bank.				
System should be able to support to a) Tracking of suit file by the Branch against the Borrower b) Generate reports on suits pending . c) Tracking of suit filed and handled by Banks legal advisors d) Generate report on status of recovery against suit filed (borrower wise)				

a) Loan against equity.

Requirement	Compliant	Modification	3rd Party	Non-compliant
Facility to store database on permitted shares and verify shares offered against database				
Facility to specify margins for different categories of permitted shares				
Before opening current account/ loan account, system should calculate market value of portfolio and define corresponding sanction limit depending on the margin				
System should open current account/ loan account with cheque and overdraft facility and accept details of securities pledged. Maintain drawing power register for the account				
System should provide for automatically carrying out the following activities as and when specified by the user :				
Recalculate drawing power - as per cycle, based on input of market value of portfolio or on premature or part withdrawal				
In case of reduction in drawing power, update the same in current account.				
If amount due within new drawing power, compute interest and generate interest intimation advice				
If not, generate requisite deposit advice or additional securities requirement advice				
Update current account with amount deposited or record additional securities offered				

b) Vehicle Loans

Requirement	Compliant	Modification	3rd Party	Non-compliant
Facility to capture Vehicle and Asset details				
Provision to record details on repossession and disposal, if applicable				
Provision to record details on insurance claimed, if applicable				

c) Syndicated Loan

Requirement	Compliant	Modification	3rd Party	Non-compliant
System should be able to support workflow in Syndicated Loan processing and appraisal process				
System should be able to support sanction & monitoring of Syndicated Loans to large corporate clients and perform proper reporting and accounting functions.				
System should be able to support following types of Syndicated Loans a) Syndication arranged by RBL (RBL will be Lead arranger Bank as well as a participant) b) Syndication co-arranged by RBL (RBL will be the co-arranger Bank as well as a participant) c) Syndication participated by RBL (RBL will be a participant)				
System should be able to support to switch the status of the Bank from one to another, such as (not limited to): a) Lead Arranger, b) Facility Agent, c) Security Agent, d) Participant.				
System should able to support participant's management where bank is the lead arranger: a) Pro-rata limit information, b) Pro-rata disbursement, c) Pro-rata repayment (interest and principal), d) Fees allocation & sharing, e) Interest rate fixation etc. (in real figure, as percentage and as spread) f) Pro-rata security sharing				
System should be able to support to have built in mechanism a) To generate repayment schedule with all possible parameters (i.e, Payment of IDPC separately, without capitalization in the moratorium period, without capitalization at the end of moratorium period or in the repayment period but separately from principal) b) To calculate for pro rata for each disbursement amount of different participants as per their respective stakes/ participations				
System should be able to support to calculate, record and track details of all fees and commissions including but not limited to a) Arranger fee/ agency fee b) Participation fee c) Commitment fee d) L/C Commission (arranger's skim, front Bank skim, pro-rata to others, etc.)				
System should be able to support to have various options to operate: a) Debt Service Collection Account (DSCA), b) Debt Service Reserve Account (DSRA), c) ESCROW account d) Margin account, e) Disbursement Collection Account f) Margin account etc				

d) Term Loans

Requirement	Compliant	Modification	3rd Party	Non-compliant
Term Loans can be for new customers or existing customers				
Facility to specify different eligibility criteria for availing a Term loan				
Parameter defined value for maximum time period of the loan				
Facility to specify any charges as required. (e.g. Processing charges, Service charges, Commitment charges, etc.). Charges can be in slabs, fixed rate, x % of a particular amount, etc.				
User-definable approval authority levels for different transactions in the term loan life-cycle (e.g. term loan sanctioning at different levels depending on the amount of the loan)				
Facility to maintain checklist of pre-requisites for sanctioning a loan. The checklist can vary for different type of loans				
Facility to define, maintain and refer checklist for appraising the credit worthiness of an applicant				
System to provide a scoring mechanism for appraisal				
System should provide on-line interface to a spreadsheet package to facilitate the user to carry out any analysis				
Facility for disbursement and collection through cash, cheques, pay orders, automatic debiting of any other account, etc.				
Allow user to define the accounting entries to be made for any transaction				

e) Reporting Features

Requirement	Compliant	Modification	3rd Party	Non-compliant
The system should provide a full set of operational, audit trail and MIS reports which include :				
Daily Activities Report				
Outstanding Report				
Due Date Analysis Report				
Overdue Report				
Exception reports				
Classification of Assets				
Assets written off				
Closed accounts				
Reports can be separated according to different processing branches.				
The reports to be generated can include the following :				
Disbursal of Advances				
Flash reports on Priority sector advances				
Basic Statistical Returns				
Loans outstanding at the end of given period				
Report on insurance policies expiring in the next X days				
On-line Enquiry				
On-line enquiry capabilities for each loan record to include :				
Currently active outstanding records				
The penal interest to be charges should be user-definable and can vary for different types of defaults (Principal only, Interest only, combination of both)				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Provision to specify different action to be taken for different periods of continued defaults. Corresponding advice/ reminder to be automatically generated by the system. Provision to record required details on follow-up activities undertaken				
Facility to specify multiple criteria for marking an account as NPA. Whenever any one or more criteria is met, system should automatically raise a warning and/or generate corresponding pre-defined reports/ statements				

f. Credit line

Requirement	Compliant	Modification	3rd Party	Non-compliant
Provision to create various Credit Lines for a customer and link to each other as a 'parent' or 'child' (this should be optional)				
It should be possible to link a Credit Line to more than one account				
The following information has to be stored on the system for Credit lines:				
Name of credit line				
Limit amount				
Margin				
Drawing Power				
Sanction Power for an authorizer.				
Expiry date				
Details of accounts under that Credit Line				
Liability				
Other Functions				
A debit/credit to a customer account, which affects the debit balance, should get reflected in real time in the Credit line attached to the account as well as any 'parent' to which that credit line may be attached.				
Facility to add parent to an existing Credit line at any point of time				
History should be available for the credit line i.e., outstanding as at a particular date, details of accounts attached to the credit line, the break up for the outstanding.				
Facility to set up credit line for a group (group of companies) Industry, sector or company.				
Facility to retrieve the credit lines setup and the amount outstanding for a customer - group, Industry, sector or country.				
Ability to collect penal interest for drawings permitted in the excess of the sanctioned credit line				
System to maintain the history of modifications to the credit lines, with before and after image of the change, date and time stamp as well as user-id of the person who affected the change.				
A drawing power register is to be maintained, with the following information				
Account number/Credit line				
Name of the account				
Customer Credit grade				
Security type, Nature of charge				
Margin percent/amount				
Statement received date				
Due date				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Penal interest				
Unit face value				
Units Market Value				
No. of units				
Distinctive numbers				
Total value of securities				
Drawing power				
Other Function				
Validity period for drawing power				
Drawing power as per QIS statement				
Ceiling limit				
It should be possible to link the drawing power maintenance to an individual account or a Credit line (used by a number of accounts)				
g)Customer Master Profile				
Requirement				
Customer name				
Company Registration Number				
Registered address				
Physical address				
Immediate holding company				
Ultimate holding company				
Customer ID				
Tax Identification Number				
Segment (Bank)				
Segment (Basel)				
Credit Rating				
Limits by product type				
Collateral type and amount				
Collateral Value (Basel)				
Guarantor Name, Registration number or ID number, Credit Rating				
Nature of Guarantee and amount				
Subsidiaries				

h) Functional Features Corporate Loans

Requirement	Compliant	Modification	3rd Party	Non-compliant
System must allow user defined parameterized Loan Products				
Term allowed for loan product: Minimum term, Max. Term.				
Mode of disbursement: one disbursal, phased.				
Repayment Methods allowed for Loan product				
Repayment Frequency				
Interest Repayment Holiday Period				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Pre-payment				
Penalty Calculation for late payment				
Multi-currency loans				
Interest rates				
Base for Interest Calculation - Actual, Scheduled & Fixed				
Interest Accrual Frequency - Daily, Monthly, Quarterly				
Charging Frequency - Daily, Monthly, Quarterly				
Interest Compounding Frequency				
Interest on past due loans				
Secured/ Unsecured				
Types of Security accepted				
Margin required				
Guarantor required or not				
Insurance required or not				
Revolving/ Non-revolving				
Rollover allowed or not				
Rollover Frequency				
Brokerage, Service Charges, Fees, Commissions for product				
Loan Maintenance				
System should support linking of GL accounts to specific functions - interest, fees, arrears, insurance etc.				
System should support linking of loans to special funds pool to identify and track the cost of funds and income from the funds pool				
Auto Maintenance of limits for loan types by customer and customer group				
Allow unlimited number of installments				
Re-schedule Loan - on request of the customer and approved by the bank, repackage the loan repayment terms, e.g., by extending the remaining repayment cycles in order to reduce the installment amount.				
Allow auto roll-over of loans overnight with option to capitalize interest. Pre-approval should be obtained prior to the roll-over process.				
System should permit movement of loans from staff to non-staff and non-staff to staff loans				
Restructuring of loan				
Automatically set the Loan account to Delinquent/ Non-performing status if a user defined number of installments are overdue.				
Allow removal of the Delinquent/ Non-performing Status from a Loan account.				
System should support identification of loans officer to loan				
One or more guarantor for a loan with fixed amount liability				
Change of guarantors, addition, deletion				
Support for offset drawdown account linked to the loan				
Support for recovery of past due installments by “polling” the offset accounts at parameterisable intervals.				
Different status of loan like non-performing loans, legal action, and government freeze to be supported.				
Linking with collateral - deposits, Financial securities, other securities, insurance policies				
Maintain details of collateral for a loan				
Security revaluation				
Allow one loan to be granted against multiple collateral.				
To confirm Lien marking (one to one, one to many, many to many, even 3rd party etc)				
To remind the expiry of security revaluation / maturity (FDR) Sanchaya Petra (SP), Bonds etc				
To provide auto generated client wise lien confirmation / withdrawal , eligible security and security release.				
To provide pop-up before i) Encashment of security				

Requirement	Compliant	Modification	3rd Party	Non-compliant
ii) Further lien on that security (if the loan is disbursed against 3 rd party's security/FDR				
Loan Processing Interest Rates				
Standard Interest Calculation Methods				
Interest suspension				
Interest waiver				
Calculation of parameter driven penalty for early repayment, to be waived with appropriate authority.				
Interest amortization				
Support daily interest accrual based on the stored interest rate and the daily outstanding balance.				
Support backdated interest rate change with all auto re-calculation of interest accrual and installment due.				
Support calculation and posting of late charge which is certain % of the outstanding installment, or a user defined minimum charge.				
Support manual input of interest amount.				
Loan Processing Fees & Charges				
Support fixed and periodic loan fees				
Support fixed and periodic loan charges				
Support penalty charges for early loan settlement				
Amortization of Fees				
Loans Processing Repayment				
Support for repayment methods like interest only installments, Principal only Installments, principal + interest installments, EPI - Equated Periodic Installments.				
Support for repayment by flat installments, increasing installments, declining installments.				
Repayment Processing				
Unlimited number of repayment periods				
System should support all methods of disbursal and repayment - cash, clearing Cheque, funds transfer, Standing orders, GL direct transfer, and deduction from salary.				
Support automatic generation of repayment schedule for interest rate change on individual loan accounts.				
Automatic generation of repayment schedule for interest rate change on individual loan accounts.				
Support for repayment holidays				
Auto generation of the required direct debit details for accounts held with the bank/ other bank				
Support auto re-try of direct debit until 1) payment is made, or 2) lapse of user defined re-try cycle, or 3) intervening action is taken.				
Support partial payment of regular installment, and also allow excess repayment, i.e., the pay-in amount is greater than the installment amount.				
Initial repayment holiday				
Prepayment				
Prepayment of loans - partial				
Prepayment of loans - full				
Support payment of installment in advance				
Automatic re-calculation of repayment schedule on early payment of installment(s) or partial redemption.				
Loan Processing Loan Provision				
Written off accounts should continue to indicate original balances on inquiries from teller terminals				
Repayment should be acceptable from written off accounts				
History of interest held in suspense account.				
Loan Processing Refinance, Discounting				
System should support tracking of refinance against loans				
System should support discounting of the loans with central bank and other agencies				
Loan Processing Statement & Advice Generation				
Periodic statements of loan accounts				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Ad hoc statements of loan accounts				
Installment payment with interest details				
Charges				
Interest rate changes and revised repayment schedule				
Miscellaneous				
Maintaining loan history				
System should support classification of loans for purpose of measuring capital adequacy of the Bank.				
Loan classification as per sector, status of loan, Central Bank reporting.				
Loan Reports				
Information required by Product Type				
Outstanding balance/ Utilization				
Approved Limits				
Unutilized amounts				
Average and Aggregate volume				
Weighted average lending rate including highest and lowest rate				
Profitability				
Income - Interest and Non Interest Income				
Contribution of Product by Branches/ Region/ Bank				
Information required by Industry Sector and Location				
Outstanding Balance/ Utilization				
Approved Limits				
Unutilized amounts				
Average lending rate including highest and lowest rate				
Information required by customer group				
Ability to support product differentiation using a parameter table.				
Provide Support for:-				
Fixed interest rate products.				
Variable interest rate products.				
Discounted products.				
Ability to link to the CIF (customer) file.				
Ability to show warning (e. g., bad debts and past dues) when entering a new loan application				
Ability to support product definition using parameter driven tables.				
Ability to support, back and forward valued transactions.				
Ability to permit loan payments at any branch.				
Ability to support accounts in multiple currencies.				
Ability to provide multi - currency conversion and consolidation.				
Ability to provide loan account facilities which cater for ;				
Individual interest rates				
Variable installment frequencies				
Interest payments at fixed periods.				
Flexible interest requiems				
interest adjustments for installments paid early				
Discounts.				
Other Functions:-				
Ability to provide for the waving of interest payments.				
Ability to provide for; the exemption or adjustment of fees and commissions. The reporting of exempted or adjusted or adjusted fees and commissions.				
Ability to provide for multiple variable payments.				
Ability to allow payments to be Scheduled				
Ability to allow payments to be Event driven (on-line)				
Ability to interface with checks and promissory notes applications.				
Ability to collect interest and/or loan amount at maturity and/or predefined dates/periods				

Requirement	Compliant	Modification	3rd Party	Non-compliant
according to settlement instructions defined.				
Ability to close the loan account and open a past due account with a penalty interest rate. Predefined according to currencies. For the uncollected portions.				
Ability to define different period codes for interim interest accrual postings.				
Ability to support the operations related with loans indexed to different currencies but issued in local currency by keeping additionally ; Indexed currency, amount (in foreign currency) or FX rate on the date of issuing.				
Ability to retain pre finance loans as a non-cash loan.				
System should be able to support workflow and imaging features in Loan application processing and credit Limit appraisal process. **System should be able to support** (online / off line credit approval system (real time/batch process, authority level) as per user defined Authority table. Authorities who enjoy delegation of business power for Credit approval. ***System should be able to support*** *Screening Preliminary Credit application - in line with the approved PPGs (Product program guide) in the system with availability of exception approval.* **System should be able to support** processing, sanction, renewal, monitoring, tracking, reporting and accounting of Non funded and Funded Credit facilities **System should be able to support** to track Loans at different stages from origination to settlements as per user defined format. **System shall be able to support** to generate and update the ceiling of the Single borrower/group exposure of the Bank To generate the Loan Facility number (loan account number) automatically / /manually. It should be able to link, the loan facility number to the customer ID, Group and CIF(s),				
System should be able to support Classification and provisioning of Loan portfolios/ Asset as per Bangladesh Bank guidelines, product wise and borrower wise.				
System should be able to support to calculate following interest application a) Simple b) Compound c) Fixed d) Floating interest rate (linked to an interest index code) e) Tired based interest rate(based on amount and term) f) Reducing, accelerating, g) Base rate + margin,				
Modes of Interest Accrual methods such as: a) 30/360 b) 30/365 c) Actual/360 d) Actual/ 365 e) Actual/Actual				
System should be able to support to shift interest calculation from one method to another method (e.g. Account running with Quarterly interest rest and applied Monthly could be changed to simple nature with half yearly/yearly interest application. The system should support such changes in computation scheme, under due authorization, and should store the history and the date of change).				
System should be able to support Current / future dated Interest Rate change				
System should be able to support back date application of interest				
System should be able to support a) To have ability to set product fees with specific business rules, e.g., additional fees charged for different customers, overdrawn accounts, etc. b) To have the option regarding early settlement fee, application fee, deferral fee,				

Requirement	Compliant	Modification	3rd Party	Non-compliant
commitment fee etc. c) Collection of Fees & services charge on arrear basis. d) To compute processing fee as percentage basis of limit sanctioned e) To set parameters indicating when, and by how much, fees should be waived. This should include certain balances, types of customers, promotions, etc. f) Collection of charges in the modes of i) Concurrent to an event, ii) Periodically on defined frequencies, g) Provide facility to charge customer for: i) Account statement sent, ii) Duplicate account statements iii) Ad-hoc account statements				
System should be able to support to have facilitate the followings 1 Moratorium for interest only (including penal interest) payable at the end of the moratorium period 2 Moratorium for principal only 3 Moratorium for charges only 4 Moratorium for principal + interest (charges repayable) 5 Capitalization of interest after the moratorium period 6 Moratorium for principal + interest + charges 7 Moratorium for an existing Term Loan (middle of repayment-i.e. rescheduling)				
System should be able to support different due dates and repayment schedules for a loan account such as: 1 Principal only 2 Interest only 3 Charges only **4** Or in combination of above				
System should be able to support different interest rates for a single customer.				
System should be able to support Holiday marking, facilitate change of interest rate with effect from a prior / future date and the re-computation of interest to be done globally and the dues to be adjusted (with value dates) in the affected accounts.				
Collateral Details **Ability to provide the following information for each collateral item**				
Description.				
Amount.				
Signatory /guarantor.				
Currency code.				
Insurance maturity date.				
Collateral Details **Miscellaneous**				
Ability to allow multiple guarantors on a contract.				
Ability to provide for collateral valuation updating.				
Ability to monitor and report on arrears.				
Ability to provide for customer loans statements.				
Ability to provide for the automatic generation or statements at regular intervals.				
Ability to provide for statement messages.				
Ability to provide for on request statements.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Ability to allow interfaces with other systems (e.g., current account , saving, time deposits, and other) in order to cover the loan payments.				
Ability to support security levels for the approval of ;				
new loans.				
credit to the customer's account				
renewals with or without payment				
modification to the original terms of approval (term, interests, guarantees)				
With regard to extraordinary payments the ability to:-				
Receive the payment of an extraordinary installment and eliminate future collections.				
Receive the extraordinary installment and shorten the term of the obligation.				
Receive the extraordinary payment and reduce the amount of the installment agreed.				
Supported Facilities				
Ability to allow. Verify and tag the transactions that exceed the authorized limits individually and system-wide.				
Ability to set and match allowances for bad debts.				
Ability to provide for the monitoring of the outstanding debt against the value of the security.				
Limits				
different types of limits				
Different groups of limits				
Sub-limits.				
Different types of collateral's.				
control and comparison structure within 1, 2 and 3				
Limits in different currencies.				
Ability to follow up and report loans ;				
X days before maturity,				
X days before the end of obligation period which is an officially set date and must be kept on the loan record.				
Ability to handle the amendment of ;				
Settlement instructions				
Accrued interest.				
Interest rate				
Maturity				
Value date				
Interest rate.				
Commission rate.				
Tax indicator				
Period codes.				
Next interest payment date				

8.3.3.7 Trade finance

Requirement	Compliant	Modification	3rd Party	Non-compliant
Functional requirements:				
Support for a range of credits and bills including:				
Letters of credit both Import & Export				
Back to Back Letters of Credit				
Acceptances				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Guarantees, Counter Guarantees				
Bills				
Documentary collection				
Reference Number Allocation				
Registration of credit details for advised, confirmed and issued contracts. Automatic allocation of reference numbers				
Document Creation				
Document creation with word processing facilities allowing the maintenance of standard clauses, document assembly and update				
Advice generation				
Automatic generation of advice and confirmations				
Liability records				
Generation of contingent liability records				
Document detail amendment facilities with the production of revised documents and changes to contingent liabilities where necessary				
Accounting Entries				
Automatic generation of accounting entries at draw-down and settlement				
Automatic Credit Update				
Automatic update of credit facility utilization records				
Commissions And Charges				
Automatic calculation and application of commissions and charges and the associated entries. Maintenance of commission and charge rate structures				
Settlement Instructions				
Generation of settlement instructions				
Document transmittal.				
Interface to Telex/SWIFT for delivery of outgoing L/C messages, confirmations, statements and advice. Interpretation and automatic capture of incoming messages				
Enquiries				
Range of on-line enquiries to support status enquiries and enquiries on commitment history				
Reversal facility				
For deleting L/Cs and reverse customer statistics and liability records				
Audit trail				
Maintenance of full audit trail of data updates				
Automatic production of required documentation in the following form:				
for import transactions:				
Letter				
Telex				
SWIFT format				
for export transactions:				
Letter				
Telex				
SWIFT format				
SWIFT Support				
Automatic transfer of SWIFT messages to and from ST-400:				
Incoming				
Outgoing				
Tenor & Credit Limit Control Based on the following;				
Customer				
Product				
Application interaction				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Applications for L/Cs				
L/C details received				
Payments				
General ledger system				
Treasury Application				
Customer Information File				
Ability to check on “blacklisted” countries				
Force credit bureau check for amounts above $XXX				
Outputs and reporting requirements				
Payments				
Daily activity report				
Outstanding L/C report				
Exposure reports by customer and country				
Customer statements				
Diary of forthcoming events.				
Letters of Credit				
Opening (Mail/Swift/Telex)				
Amendments (Swift/Telex)				
Documents arrival				
Documents settlement				
Cancellation				
Advising L/C				
Advising amendment				
Negotiation				
Claim reimbursement/payment				
Closure				
The System must be capable of processing the following transaction types:-				
Import -Issuance				
Amendment				
Negotiation (sight or acceptance)				
Payment				
Export -Pre-advise				
Advise				
Confirmation				
Sight negotiation and settlement				
Acceptance and settlement				
The following features must be supported:-				
Irrevocable/revocable				
Revolving				
Stand-by				
Acceptance				
Deferred payment				
Shipping guarantees				
Generation of accounting entries must be automated.				
All conditions held can be subject to change at data capture (input).				
A billing function must be supported at each stage of the process for charges to be claimed from any party other than the applicant or beneficiary.				
Counter-party information must be held on the system for the following:-				
issuing bank				
Confirming bank				
Advising bank				
Negotiating bank				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Reimbursing bank				
Beneficiary				
Customer				
Non Utilization of Credit				
Non-utilization of a credit must be advised to the customer. A facility must exist to reinstate non-utilized credits. Supervisor approval is required to do this.				
The System must include comprehensive reporting facilities including:-				
Activity journal				
Exception journal				
list of outstanding L/C's by type, due date, customer, etc.,				
Statistics on volume commissions and types by customer/correspondent.				
overdue bills under L/C's				
expired L/C's				
acceptance bills due for payment				
Basis of Commission calculation are:				
Categories / Sub-Categories				
Special Rate				
Against Counter Guarantee of Bank/ Margin				
Value				
Upfront				
Partially Upfront				
Arrears				
Calculate commission at Standard/special rate.				
Handle Standard fees / special rates as well as customers'/ Account Officers' standing instructions.				
Online Transaction				
On line processing of all transactions.				
Automatic generation of advices/entries.				
Multi-currency processing and accounting.				
All data validation performed on line at processing level.				
On line performance of all types of calculations. Account number structure to be fully compatible with our General Ledger package.				
On line facility to print/display customer position/ Liabilities. Ability to handle consolidated limits/provide various credit facilities.				
Pending transactions (not released by system) to be added to new transaction for which credit approval is to be obtained.				
Produce LC / guarantee instrument on line basis with no limitations for number of forms.				
Handle forward and backward value dates for:				
Debiting/crediting customer's account.				
Debiting/crediting Nostro and Vostro account.				
Release SWIFT / Telex / Fax / Mail messages after final approval instantly (at option).				
Multiple gate - ways.				
Refer to A/C officer electronically for approval where required				
Reject Release of Transaction, which is pending for Credit Approval.				
Facility to Set up and Update :				
Customers				
Correspondent Banks.				
Country Limits.				
Standard / Optional/ Mandatory Clauses				
Insurance Companies				
Commodity Codes				
Banned Commodities				
Government restriction clauses				
Customers' / Account officers' standing instruction(s)				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Currency(s)				
LC PROCESSING:				
Register L/C Application				
(Input: Customer A/c number, beneficiary' name, currency, amount and L/C type)				
Other Issues:-				
Display title of Account, name(s) of authorized signatory (s), specimen signatures and import license expiry date.				
Allocate Registration number				
Print acknowledgment advice to customer				
Print customer position showing reason for referral such as, limit expired, limit exceeds etc. where credit approval required.				
Refer to A/c Officer electronically for approval where required.				
(Input: LC No and Insurance Policy No.)				
Up-date Lc status.				
Register L/C Amendment Request				
(Input: L/C number, amendment requested)				
Display openers' name / beneficiary's name, L/C amount and expiry date, name(s) of authorized signatory (ies) and specimen signature(s).				
Print acknowledgement advice to customer.				
Print customer position				
Facility to override the required approval with appropriate authority.				
Amendments :				
Extend shipment date and LC validity				
Increase L/C value (Liability to be raised for increased amount).				
Change shipment terms i.e. FOB to CNF, CIF & vice versa				
Change correspondent bank name				
Change reimbursing bank name				
Convert sight / usance L/C into revolving				
Change beneficiary's name				
Change consignee's name				
Third party documents acceptable				
Curtail L/C validity and shipment date				
Reduce L/C value (liability to be reduced at request).				
Partial Shipment allowed / not allowed				
Transshipment allowed / not allowed				
Deduct Agents commission (percentage/amount)				
General				
Approve L/C (Input: Registration number, details as per L/C application, Agents commission (percentage/amount) required mandatory/optional clauses etc. (Terms and conditions/clauses attached)				
Allocate L/C Number				
Calculate fees with applicable rate (Standard / special)				
Generate necessary entries i.e. liability according to type of L/C for total amount i.e. L/C value + tolerance if any. For mixed L/Cs liability to be booked sight and acceptance according to percentage/amount. Fees on total amount i.e, (L/C value + tolerance if any) recoveries, margin, customer account etc.				
Update Limit Module / CIF on real time basis				
Print pre-advice telex / swift (where applicable)				
Print L/C (Mail / Telex / Swift)				
Print reimbursement authorization (Mail / Swift / telex)				
Fax L/C copy to customer along with debit advice				
Display transaction(s) pending for approval.				
Approve Amendment				

Requirement	Compliant	Modification	3rd Party	Non-compliant
(Input: Amendment Registration Number).				
Allocate amendment number				
Calculate fees with applicable rate (Standard / special)				
Generate necessary entries i.e. liability(inclusive of tolerance if any), fees, recoveries, margin, customer account etc.				
Update Limit Module / CIF				
Print and fax debit advice				
Print Amendment (Mail / Telex / Swift)				
Print reimbursement authorization amendment (Swift) where applicable				
Fax Non-CIF L/C Amendment copy to Insurance Co. (at request).				
Fax L/C Amendment copy to customer along with debit / credit advices.				
For L/Cs opened against margin, debit margin amount to customer's a/c for increased L/C value and credit to margin A/c.				
Update customer L/C outstanding when amending revolving L/C from automatic to non-automatic and vice versa.				
Facility to issue Shipping Guarantee. (Input: L/C No. name of carrying vessel, B/L No. and date, port of loading, port of discharge, details of goods, shipping marks and amount)				
Generate necessary entries: i.e.				
Dr. customer, Cr. L/C margin, commission , postages (Sight L/C)				
Dr. customer, Cr. commission, postage (Acceptance L/C)				
Print Shipping Guarantee				
Facility to cancel the guarantee.				
Other Functions				
Capture information such as L/C number, negotiation date, currency, amount, value date and reimbursing bank				
Allocate Transit Bill number				
Diarize to follow up with negotiating bank for non-receipt of documents. Produce tracer by swift / telex to negotiating bank on diarized date.				
Fax negotiation advice to customer at option.				
Flag LC to avoid duplication towards updating cash flow upon arrival of documents.				
Documents Arrival **Register Documents Received:** (Input: L/C Number, drawing amount, name of forwarding bank and courier air way bill number)				
Allocate Registration Number				
Produce list of documents received				
Update L/c status				
Process Arrival of Documents (Consistent/discrepant on approval basis).				
(Input: Registration number Drawing type, Drawing Amount, Negotiation date, Description of goods, Shipment details, documents details and Discrepancy(ies) observed)				
Display registration number, L/C number, amount, opener's name, expiry date, unutilized balance and observations such as: Excess/ drawing/ Late Shipment/ Late presentation / L/c expired/ Agent Commission not deducted.				
Produce discrepancy Telex / Swift message. Transmit to concerned parties at request.				
Fax Arrival Advice to customer indicating discrepancies if any.				
Diarize 3 days before maturity and report to Dealing Room (Usance L/C)				
Diarize maturity date to process settlement (Usance L/C)				
Telex / swift advice to negotiating bank confirming maturity date for Usance Bills				
Telex / swift to negotiating bank where negotiation not advised by telex as per LC (Sight L/C)				
Generate necessary entries such as: Liability, Nostro, advances against LCs, refund of amendment commission to customer's account, telex recoveries, Agent's commission etc.				
Update limit module / CIF				
Diarize documents received on approval basis for follow up				
Process documents on approval basis same as negotiated (No entry for advance against L/C				

Requirement	Compliant	Modification	3rd Party	Non-compliant
only Liability to be reversed)				
Generate entries after approval of documents by openers (where required).				
Facility to Cancel Drawing (Bill) Processed:				
Cancel the bill and update LC status				
Fax cancellation notification to dealing room / customer incase negotiation already advised				
Generate necessary entries: Nostro, advances against L/Cs & liability				
Update L/C / Limit Module / CIF				
Facility to rectify wrong Input such as Negotiation Date, Value Date, Amount, Name of Negotiating Bank etc.				
Goods Arrival Notification to Customer (Ability to control steamers arrival and generation of reports/lists and advices to customers.)				
(Input: L/C No., Bill Number (where documents already arrived), Name of vessel/carrier, B/L No., Air Way Bill No./ Shipment date, Shipment value where documents still awaited)				
Produce goods arrival notification				
Fax to opener				
Update L/C status				
Documents Settlement (Input: L/C number, Bill Number, Account number (FC /KWD) as requested by customer)				
Print customer's position if credit approval required and refer to A/c Officer electronically for approval.				
Seek reconfirmation of payment before processing				
Process settlement with applicable exchange rate in accordance with rate slab.				
Calculate interest from date of negotiation at applicable rate.				
Calculate acceptance commission at applicable rate (Interest on acceptance bill from maturity date).				
Calculate interest /commission, as per tariff (interest to be charged from maturity if acceptance bill not settled on due date)				
Generate necessary entries such as: Advances against L/C, interest, commission, postage, telex, nostro (for acceptance/documents on approval) reversal of acceptance liability. Refund of amendment commission to customer a/c, payment of agents commission (where applicable).				
For documents where shipping guarantee is issued, settle bill against margin held.				
Update Limit Module /CIF				
Print debit / credit advices				
Produce Swift / Telex payment authorization to reimbursing bank for net proceeds (at option) Produce Telex / Swift remittance advice.				
Produce swift/telex advice. Release reserve message (where applicable).				
Cancel fully/partially utilized L/Cs 30 days after expiry date provided no outstanding bill exists.				
Generate necessary entries i.e. reversal of outstanding liability, margin (if any), commission on fully unutilized L/Cs as per tariff. Update Limit Module /CIF.				
Print cancellation advice.				
Fax cancellation advice, debit/credit advice to opener indicating unutilized amount.				
Cancellation At Request (Input: L/C number)				
Display L/C details. Seek confirmation to cancel.				
Reject cancellation incase any bill is outstanding				
Generate necessary entries same as automatic cancellation				
Update Limit Module / C.I.F.				
Print cancellation advice.				
Fax cancellation advice, debit/credit advice to opener.				
Fax cancellation advice for Non-CIF L/C to insurance company indicating unutilized amount.				
Advising of Export L/C (Input : L/C number, date L/C received (default) beneficiary's name and address, Applicant's name,				

Requirement	Compliant	Modification	3rd Party	Non-compliant
expiry and shipment date, currency and amount, L/C type, tenor of draft, confirmed/non-confirmed, issuing bank's name & address, party to bear charges, first advising bank (if any), reimbursing bank, commodity code etc.)				
Allocate our reference number				
Capture details from swift/ telex message where L/C received by swift/telex.				
Print pre-advice notification to beneficiary where telex/swift pre-advice received. Fax same to beneficiary after approval.				
Print issuing bank's position where L/C to be confirmed by us.				
Generate entries for L/Cs confirmed by us. Update Limits Module.				
Produce swift/telex message to issuing bank advising inability to add confirmation.				
Print advice to beneficiary by mail / fax				
Print acknowledgment to issuing bank by swift / telex and claim charges if charges for opener's account.				
Produce Swift / Telex message advice to opening bank (at option)				
Diarize for charges claimed/follow up.				
Export LC Amendment (Input: L/C number/ our reference/amendment details etc.)				
Capture amendment details from swift				
Display L/C details				
Print bank's position where our confirmation required to be added				
Generate entries for L/Cs confirmed by us. Update Limit Module.				
Produce amendment advice and mail / fax to beneficiary.				
Produce swift/telex amendment acknowledgment to issuing bank and claim charges, where charges for opener's account.				
Produce swift / telex message to opening bank (at request) advise our inability to add confirmation..				
Diarize for charges claimed/follow-up				
Export LC Negotiation of Documents Input: L/C number, our reference, amount of drawing, details of documents discrepancy(ies) observed, confirmation added / not added etc.				
Update cash flow in Treasury System where Nostro account involved.				
Regular Documents				
Produce covering schedule				
Produce and transmit swift / telex reimbursement claim stating where funds are to be credited (Facility to select banks' name with whom we maintain account. Validation must be available to cross verify the bank selected by the user)				
Irregular Documents				
Produce advice showing discrepancies				
Fax to beneficiary.				
Transmit swift/ telex message to issuing bank stating discrepancies.				
Diarize transaction pending for approval				
Capture discrepancy(ies)from SWIFT / TELEX message sent to issuing bank / First advising bank				
Payment (Input: Export L/C number, Beneficiary's account number and bank, charges, Nostro account etc.)				
Generate necessary entries				
Produce credit advice / swift transfer / Clearing voucher				
Update Limit Module / CIF				
Expired Unutilized L/Cs				
Remove from active record Fully / Partially unutilized L/Cs 15 days after expiry date provided no outstanding bill exists.				
Generate entries for confirmed L/Cs				
Update Limit Module.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Claim charges from issuing bank as per tariff				
Send tracers for payment of unpaid charges				
Process claim (Input our reference, amount claimed, negotiating bank, payee bank, method of payment).				
Refer to A/c Officer electronically for approval where required.				
Generate entries.				
Produce debit advice / swift notification to opening bank				
Credit advice / swift notification to negotiating bank				
Facility to create L/C reimbursement (Input : Opening bank's name who maintains account with us, L/C number, negotiating bank, expiry date, charges, currency, amount inclusive of tolerance. Any remarks concerning payment).				
Captures above noted data incase swift authorization received.				
Allocate our reference number				
Automatic collect/block margin at the initiation stage where required and automatic refund/ release upon payment of documents and/or cancellation of the L/C and Guarantee.				
Facility to Collect Margin / Block Funds according to percentage or amount.				
Debit customer's account with required amount and credit the same to Margin account / block the amount in customer's account.				
Produce debit advice / blocking confirmation				
Update LC/LG status and Limit module				
Facility to Refund Margin / Release Blocking				
Debit margin account with amount to be refunded and credit customer's account / release blocking.				
Documentary collections				
All L/C paragraphs relating to the real-time update environment, the separation of input and authorization, the availability of various authorization levels and the application of strict validation rules, history and audit trail rules, etc. apply to collection processing. Collection refers to the process by which bills of exchange, usually accompanied by shipping documents are sent to the drawee's bank for payment or acceptance. Both inward and outward bills for collections must be handled. All collections must be recorded for control and statistical reasons by customer and correspondent over memorandum accounts.				
The System should provide comprehensive reporting and on-line inquiry facilities such as:-				
activity journal				
exception reporting				
Outstanding transactions by customer, currency, type, etc.				
Statistics on transaction types, commission and charges for given time periods.				
Collections -Processing And Payment				
Clean Collections(Inward)				
Clean Collections(Outward)				
Documentary Collections(Inward)				
Documentary Collections(Outward)				
Inward Documentary Collections				
Facilities required:				
Produce tracer at request				
Notify arrival of documents to drawee through another bank.				
Issue shipping guarantee.				
Arrival (Input: Customer name and address, Air Waybill number and date, goods description and arrival date, invoice value)				
Allocate reference number.				
Produce goods arrival advice and fax to customer.				
Release (Input: Reference number)				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Generate entries				
Debit customer, Credit Suspense A/c charges etc.				
Documents Arrival (Input : Name of Remitting Bank / Senders, their ref., amount, tenor, documents received, shipment details, special clause if any.				
Allocate our reference Number				
Print arrival advice / fax to drawee				
Print acknowledgment to sender				
Documents settlement : (Input collection number, settlement account number, refusal of charges, deduction of recoveries, Nostro bank / Payee bank etc.)				
Display bill details				
Display customer's position and specimen signature(s) of authorized signatory.				
Generate related financial entries - Credit Nostro - Debit customer Credit Comm. Postage, telex (on line).				
Produce debit advice and fax to drawee at request				
Produce swift remittance/payment advice				
Remove tracer and update status of bill paid				
Update cash flow in Treasury system.				
Tracer				
Print first tracer to drawee for bills not paid / not accepted after 30 days of arrival advice.				
Print second tracer to drawee for bills not paid / not accepted after 15 days of first tracer.				
Produce swift / mail notification to sender stating unpaid / unaccepted bill will be returned after 7 days of the date of the tracer.				
Return Unsettled / Unaccepted Collections (Input: bill number, any charges / recoveries etc.)				
Display bill details				
Produce letter/swift to sender advising return of documents and copy to drawee				
Keep track for 20 days for charges recoveries				
Produce swift/ mail reminder for unpaid charges				
Process Charges / Recoveries Received (Input: bill number, currency and amount received, Nostro A/c number)				
Display bill details				
Generate financial entries				
Remove track				
Outward Clean / Documentary Collections				
Processing (Input: Collecting bank, currency, amount, payment method and charges)				
Allocate Bill number				
Print covering schedule, Indicate mode of dispatch / our reference number, tenor, remittance instruction etc				
Produce courier covering letter for dispatch by courier.				
Produce acknowledgment to drawer/payee				
Diarize for 20 days from the date of processing to send tracer in case of non receipt of payment/acceptance advice.				
Payments (Input: Bill reference number, Nostro A/c number, deduction made by correspondent, payees account number etc				
Generate necessary entries				
Print credit advice fax to drawee				
Update status of bill.				
Update cash flow in Treasury system.				
Tracer Swift / Telex/Mail Produce tracer by swift / telex / mail to collecting bank in case bill proceeds not received within				

Requirement	Compliant	Modification	3rd Party	Non-compliant
20 days of bill sent.				
Unpaid Bill returned by Collecting Bank				
(Input bill number, recoveries, correspondent charges)				
Print debit advice for our charges & correspondent charges				
Produce swift message for charges to be remitted.				

8.3.3.8 Settlements and Messaging

Requirement	Compliant	Modification	3rd Party	Non-compliant
Standing data				
Dealer. The following information should be available for a dealer:				
dealer initial;				
dealer name;				
dealer code;				
book(s) / portfolios to which a dealer has authority to view and/or trade;				
Instruments a dealer have authority to view and/or trade.				
Instrument. The following information should be available for an instrument:				
instrument identifier;				
instrument name;				
currency;				
country;				
clearing house;				
default custodians;				
instrument type to which an instrument belongs;				
issuer identifier;				
guarantor identifier;				
indicator if collateral is attached to the instrument;				
custodian identifier;				
issue details which should be dependent on the instrument type and should include the standard issue details used industry-wide;				
Redemption details, i.e.. details on partial redemption, sinking fund, put/call, final redemption details;				
coupon details, i.e. historical and next coupon dates and rates / fixed or variable/etc;				
Default settlement period (spot, 5 days, etc.);				
underlying instrument(s), e.g. for a warrant, bond or equity;				
profitability calculation / valuation method for investment management reporting purposes;				
authorization procedure;				
Rules for settlement of business in this instrument.				
Instrument type. The following information should be available for an instrument type:				
instrument type identifier;				
instrument type name;				
default rules for interest calculation;				
profitability calculation / valuation method for investment management reporting purposes;				
profitability calculation / revaluation method for accounting purposes;				
default rules for settlement of business in this instrument type;				

Requirement	Compliant	Modification	3rd Party	Non-compliant
default commission payable / chargeable rates;				
default charges payable / chargeable rates;				
Whether short positions are allowed on this instrument type.				
Counterparty. The following information should be available for a counterparty:				
counterparty identifier;				
counterparty short name;				
counterparty name;				
address;				
country identifier;				
IR / tax number;				
whether withholding tax is normally charged;				
withholding tax rate;				
telephone numbers ;				
fax numbers;				
e-mail address;				
contact name;				
BANK'S manager responsible for counterparty;				
Reuters codes;				
SWIFT codes;				
Telex number;				
Bank account numbers (including BANK'S bank account number for local counterparties);				
counterparty authentication keys;				
counterparty category, e.g. professional, semi-professional and retail;				
counterparty credit rating;				
credit approved limit;				
counterparty group to which the counterparty belongs;				
portfolio account number;				
trade blocking / suspension flags;				
credit monitoring flags;				
Date of last management review for counterparty.				
Counterparty group. The following information should be available for a counterparty group:				
counterparty group identifier;				
counterparty group short name;				
counterparty group name;				
country identifier;				
Clearing account information. This represents the details of BANK'S own correspondents and cash/nostro clearing accounts as well as the counterparties' clearing accounts. Details should include:				
Holder (counterparty / BANK'S);				
currency;				
country;				
correspondent bank;				
branch;				
telephone numbers ;				
fax numbers;				
email address;				
contact name;				
BANK'S manager responsible for counterparty;				
SWIFT codes;				
Telex number;				
Bank account number (including the identification of bank accounts held by the BANK'S as a correspondent bank in its own right for local counterparties);				

Requirement	Compliant	Modification	3rd Party	Non-compliant
maximum holding limit;				
minimum holding limit;				
interest payable / receivable on account (should support interest tiers);				
settlement details required to clear payments through this account;				
Financial accounting details such as for general ledger control account.				
The software system should have the Clearing House settlement facility of the branches under On-line and Off-line.				
Country. The following information should be available for a country:				
country identifier;				
country short name;				
country name;				
country code;				
Calendars. The system should have calendars available for dealing and settlement by country indicating any relevant information such as public holidays.				
Currency. The following information should be available for a currency:				
currency identifier - REUTERS;				
currency code - ISO;				
Currency code - other;				
currency name;				
country identifier;				
number of decimal places;				
dollar reciprocity indicator;				
Scale used on cross-rate quotes (e.g... per unit / 10/ 1000/ etc.)				
currency interest days basis;				
Custodian. The following information should be available for a counterparty:				
custodian identifier;				
custodian short name;				
custodian name;				
address;				
country identifier;				
telephone numbers				
fax numbers				
contact name;				
BANK'S manager responsible for custodian;				
Reuters codes;				
Other clearing system numbers;				
SWIFT codes;				
Telex number;				
Counterparty identifier if custodian is also counterparty.				
Interfaces to external systems				
External Systems. The system shall automatically format messages for the following systems in use:				
Swift Alliance				
Telex;				
Message authentication				
Authentication facilities.				
The system shall have message authentication facilities.				
Authentication through external systems. Alternatively, the system shall make use of the authentication facilities afforded by the external systems, namely:				

Requirement	Compliant	Modification	3rd Party	Non-compliant
SWIFT Alliance				
Authorized users.				
The authentication keys settings shall be secured and enabled to authorized users only.				
Non-authentication.				
The system shall block all instructions to counterparties that cannot be authenticated by the system.				
Releasing blocked instructions.				
Blocked instructions shall be released, with management's authorization, once authentication keys become available.				
Clearing blocked instructions.				
Blocked instructions may be transferred to the history archive without further processing of those instructions.				
Incoming message routing				
Routing.				
The system shall enable automatic routing of incoming messages through the use of message codes / user tables.				
Exceptional incoming messages.				
Any incoming messages, which cannot be processed automatically, shall be placed in an outstanding message queue for the appropriate department to process.				
Re-routing.				
It shall be possible for the user to manually re-route outstanding messages to another user / department.				
Manual priority re-routing.				
The system shall enable the user to manually highlight a high priority message prior to re-routing.				
Process outstanding messages.				
It shall be possible to process and clear outstanding messages applying user selected entries to the:				
Banking Operations System;				
Investments Management System;				
Financial Management System.				
Clear outstanding messages.				
It shall also be possible to clear outstanding messages by transferring these to the message history archive without further action on such messages.				
Failed authentication.				
Incoming messages failing authentication shall be reported and highlighted in the audit trail but no further processing will be allowed on such messages pending management authorization.				
Outgoing messages controls				
Duplicate instructions.				
The system shall identify possible duplicate outgoing instructions by comparing the instruction details to be sent with those already sent and queued to be sent.				
Matching. In matching such instructions, a user defined combination of the following details, for each instruction type, shall be compared: Sending of duplicate needs to initiated manually				
correspondent details;				
counterparty details;				
ordering party details;				
beneficiary details;				
currencies;				
exchange rates;				
amounts;				
Value dates.				
Audit trails.				
The system shall warn management of possible duplicate emissions for outgoing messages and shall highlight these in the audit trails produced.				
Authorization.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
The possible duplicate instructions shall require management authorization to be released to counterparties.				
Multi-staged accounting				
Multi-staged posting.				
The system shall automatically post financial transactions to the Financial Management System to reflect the stage at which a complete deal / business process is at.				
User defined operational processes.				
The stages that shall be accounted for shall be user defined for each transaction message / type. A typical process may be in the form of:				
On deal DR – DEAL AWAITING CONFIRMATION CR – LIABILITY IN SUSPENSE				
On confirmation DR – CONFIRMED DEAL CR – DEAL AWAITING CONFIRMATION				
On settlement / value date DR – INVESTMENT ACCOUNT CR – CONFIRMED DEAL ACCOUNT DR – LIABILITY IN SUSPENSE CR – NOSTRO ACCOUNT				
Suspense accounts.				
The suspense accounts showing deals settlement in progress should relate to the correspondent / counterparty / instrument in the same manner that the final transactions would be accounted for.				
Pre-settlement business confirmation				
Confirmation of business details.				
The system shall enable the user to confirm business details with counterparty prior to settlement. The requirement shall apply to all investment deals, foreign exchange business, banking and trade finance business.				
Confirmation prior to settlement.				
The system should produce confirmation notes for all deals / business types indicated by management. These will be produced following:				
initial deal entry;				
amendment to a deal;				
Deletion of a deal.				
Confirmation content.				
The system should produce confirmation notes detailing:				
all information entered at deal entry, amendment or deletion;				
Management authorization details;				
Counterparty details (e.g. contact, name, address);				
All payment / receipt schedules (principal, interest, other).				
Confirmation by telex.				
The system should be capable of sending a deal confirmation by telex to counterparties who are able to receive confirmations in this way.				
Copies of confirmation notes. The system should produce multiple copies of the confirmation note for each deal recorded. These are intended for use as follows:				
client copy;				
investment manager copy;				
financial controller copy;				
BANK'S filing copy.				
Re-print of confirmation slips.				
The system should provide a facility to re-print any deal confirmation upon user request. These				

Requirement	Compliant	Modification	3rd Party	Non-compliant
should clearly be marked 'Copy'.				
Immediate reporting.				
Immediate reporting of unmatched confirmations shall be produced.				
On-line viewing.				
Unmatched confirmations shall be viewed on-line.				
Processing unmatched confirmations.				
Unmatched confirmations may be blocked by the user for investigation and transferred to a message history archive without further action taken or processed further with management authorization.				
Unacknowledged confirmations.				
The system should produce a report showing all confirmations, which have not been acknowledged by the counterparty. The system should enable the user to request a copy of the original confirmation note with the addition of a standard 'Please sign and return' notice.				
Limits.				
Limits utilization shall be equal to the net fund transfer value / net value outstanding if such an agreement is in force with a counterparty and is being applied.				
Settlement administration - Payments				
Payment instructions. The system shall accept payment instructions generated by the:				
Banking Operations System;				
Investments Management System;				
Financial Management System.				
Authorization.				
The payment instructions shall be queued pending management authorization for settlement.				
Formatting.				
On authorization, the payment instructions shall be formatted for settlement via the external systems.				
Payments to counterparties. The system should produce payment notices for each payment through BANK'S clearing accounts. The instruction slip should show:				
transaction identifier;				
the counterparty name;				
the underlying transaction details such as the account number of a banking client;				
amount;				
advice date;				
value date;				
payment narrative;				
Payment originator.				
Updating within other systems.				
The settlement of payment instructions shall be automatically reflected by the system in the Banking Operations, Investments Management and Financial Management Systems to record the fact that settlement has been effected.				
Forward dated payment instructions.				
The system should schedule and issue payment instructions to counterparties on the spot date prior to the forward value date (this is the two-day spot date coinciding with the forward value date).				
Manual override.				
The system should allow a controlled and secure manual facility to issue instructions to pay prior to matching of the deal confirmation so as to overcome potential settlement delay problems.				
Client agreements.				
The system should provide an on-line warning for payments to counterparties whose client agreement documents are recorded in the standing data held by the Investment Management System as incomplete.				
Client agreement documentation.				
The system should also provide a daily report of those counterparties where the client agreement documentation is recorded as incomplete.				
Security.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
The system should ensure that unauthorized payments are prevented.				
Settlement administration - Receipts				
Receipt instructions. The system shall accept receipt instructions generated by the:				
Banking Operations System;				
Investments Management System;				
Financial Management System.				
Authorization.				
The receipt instructions shall be queued pending management authorization for settlement.				
Formatting.				
On authorization, the receipt instructions shall be formatted for settlement via the external systems.				
Recording receipts.				
The system should provide a means of recording the successful receipt of funds within the nostro accounts.				
Receipt instruction details. The system 'instruction to receive' facility should permit the entry of:				
unique receipt identifier (system generated);				
counterparty;				
amount of receipt;				
BANK'S corresponding bank and nostro account details;				
narrative text;				
Record all receipt instruction details.				
Updating of other systems. On confirmation of receipt of funds at BANK'S nostro accounts, the system shall update:				
the Banking Operations System with the funds received on behalf of banking clients whose account shall be updated accordingly;				
the Investments Management System with the funds received in settlement of any investment related fund movement to be reflected in the Bank’s portfolio accounts;				
The Financial Management System with the relative accounting entries of the nostro and other accounts.				
Security.				
The system should ensure that unauthorized or unidentified receipts are reported and monitored until they are cleared.				
Settlement administration - Fund transfers				
Method.				
The system shall process fund transfer instructions as for simultaneous payment and receipt instructions, maintaining all relevant controls.				
Intermediary transactions.				
The system shall convert incoming payment / receipt instructions into clearance instructions to transfer funds between client accounts held by the Banking Operations System.				
Intermediary transaction dates.				
The system shall forward date / back date intermediary transactions posted to the Banking Operations System to the value date indicated in the incoming message.				
Back dated transactions.				
Back dated transactions shall be highlighted for management authorization prior to settlement through the Banking Operations System.				
Account postings.				
The system should perform account updates to all relevant BANK'S and counterparty / client accounts following processing of intermediary transactions.				
Settlement detail amendment.				
The system should provide the facility to amend settlement details following a previous instruction to settle where this has occurred. This facility should enable:				
countermanding preceding settlement instructions (and should provide a warning which requires override in these circumstances);				
Entry of further settlement information received following successful settlement.				
Position adjustments.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
The system should correctly adjust all relevant positions following settlement detail amendment where necessary, namely:				
Trade-dated position;				
Value-dated position;				
Settled position.				
Account updates.				
The system should correctly perform postings to the relevant BANK'S and counterparty accounts following settlement detail amendment where necessary.				
Settlement inquiries				
Payment / receipts. The system should provide an on-line facility to show all settled and unsettled payments and receipts. Details should include:				
Payment/receipt indicator;				
Counterparty (abbreviation or mnemonic);				
Amount;				
BANK'S correspondent bank and nostro account details.				
Settled cash reconciliation.				
The system should provide a facility to reconcile, at the close of each trading day, the total cash movement reported by the Financial Management and Investments Management Systems with that recorded by this system. Any difference should be reported on-line.				
Unsettled deals list. The system should provide an on-line facility listing all un-settled deals due for settlement on the current day. The summary should display all deals including:				
Forward deals whose value date is today;				
Backdated deals (i.e. deal corrections for settlement today) whose value date is today.				
Forward monitoring.				
The system should provide for an on-line facility to view deals entered by the dealers with a specified forward value date.				
Nostro and vostro statement reconciliation				
Receipt of incoming statements.				
The system shall receive incoming statements from correspondent banks.				
Generation of reconciliation statements.				
The system shall automatically process correspondent bank statements details against financial and deal records, and shall generate a reconciliation statement.*(The system does reconciliation on an account to account basis)*				
Full audit and reporting shall be undertaken, highlighting:				
unmatched statement lines;				
Statement lines with value date differences.				
Nostro Reconciliation would be made between Off-line AD Branches and Head Office.				
Investigation.				
The system shall automatically queue outstanding items requiring investigation, according to user defined instructions.				
Follow-up messages.				
Follow-up messages shall be generated to investigate outstanding / un-reconciled items and matches with a value date difference.				
Retention of investigation details.				
Investigation details shall be retained on-line by the system and shall be linked to the outstanding items.				
On-line viewing.				
All outstanding items and investigation details shall be viewed on-line.				
Manual reconciliation.				
The system shall enable the user to manually match statement lines.				
Reconciliation completion.				
The system shall enable the user to post further financial transactions to complete statement reconciliation.				
Issue of bank statements on VOSTRO accounts.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
The system shall also produce VOSTRO account statements and transmit these:				
on counterparty request;				
on issue by the Banking Operations System.				
Document Management				
The Document Management will provide the functionality to manage the Documents obtained from Customers for availing various facilities with a Bank. The software should capable to specify details about Classification and Types of Documents, conditions for required Documents when a Customer relation is established and for the various facilities offered to customers. The software should also capable to track the Status of required Documents and it would produce appropriate overrides or errors when the required documents are with an invalid status.				
Image Management				
The Image Management using GUI will have the ability to capture images using industry standard scanners, digital cameras and videos output such as signatures, loans documentation, birth certificates or passports which will eliminate the user to access the physical document itself - indeed this may not be possible with items such as passports, or if the item itself is lodged somewhere for safekeeping.				
Lodging collateral				
Secured instruments where collateral has not been lodged. The system should provide an on-line enquiry of all secured instruments (loans, deposits, repos, etc., where				
the lodging of collateral has not been recorded;				
insufficient collateral has been recorded;				
Excess collateral has been recorded.				
Direct lodging.				
The system should allow the user to select an instrument and go directly to the lodging facility.				
Lodging facility. The system should provide a facility which enables users to record the lodging of securities as collateral by/with a counterparty. This facility should, for any single secured instrument, enable entry of:				
Counterparty;				
Safe custody indicator (default from counterparty file);				
Third party custodian/agent indicator;				
Maturity date (default from instrument maturity date);				
Stock description;				
Quantity of stock; and				
Value of stock.				
As an amount; or				
As a percentage of the secured instrument value (loan, repo, etc.)				
The system should provide a means of entering and maintaining details of third party custodians (agents) that BANK'S or counterparty may use.				
Stock available. The system should provide an on-line list of stock held by the bank, which is available to the Bank for lodging with counterparties in exchange for secured instruments. This list should be directly accessible from the lodging facility and include details of:				
stock description;				
quantity;				
current value;				
Maturity date.				
Stock used as collateral. The stock used as collateral by BANK'S should also be clearly identified, through a separate portfolio, enabling:				
accounting for contingent liabilities;				
control over movements of such stock;				

Requirement	Compliant	Modification	3rd Party	Non-compliant
updating and reporting of a specific maturity ladder for the collateral portfolio;				
Identification of the instrument to which the collateral refers.				
Stock received as collateral. The stock received as collateral from counterparties should also be clearly identified, such as through a separate portfolio, enabling:				
control over movements of such stock;				
Stock available for withdrawal by counterparty.				
The system should provide an on-line list of the stock available for withdrawal by counterparty. This should be directly accessible from the withdrawal facility.				
Exchanging facility.				
The system should provide a facility, which enables users to exchange stock used as collateral. This facility should effectively perform a withdrawal followed by a lodge, with all the facilities provided by those independent facilities.				
Collateral positions				
Collateral position. The system should provide an on-line enquiry displaying the total balance of collateral lodged by and/or with a specified counterparty. The system should allow the user to select a particular counterparty collateral balance and show a breakdown of items contributing to that balance Detailed reports are available.				
Collateral position revaluation.				
The system should revalue the collateral position with a counterparty following each lodge or withdrawal.				
Secured instrument. The system shall identify the instruments / business for which collateral has been lodged. As such the system shall identify and report:				
which collateralized instruments relate to which secured instrument;				
when the collateralized instruments will be released.				
Collateral valuation and monitoring				
Market pricing.				
The system should enable all collateral to be valued each day using a mark to market valuation method. This process shall be applied to collateral lodged by the BANK'S and collateral lodged by counterparties. For market quoted instruments such as Equity etc.				
Monitoring collateral. Following valuation, the system should provide a means of assessing whether:				
value (collateral allowing for margin) <> value (secured instrument);				
Statistics. The system shall maintain statistics related to performance of counterparties holding nostro accounts. Statistics shall include:				
Reconciliation differences between own account and counterparty account details;				
Value date differences;				
Performance monitoring.				
On-line performance monitoring will be enabled using any or all of the above information.				
Settlements processes audit ability				
Audit trails.				
Audit trails shall be maintained for all changes to the information held by the system.				
Changes to standing data.				
Audit trails shall be detailed, highlighting changes made to standing information such as user authorities, message routing tables, etc.				
Archive. The system shall also maintain a history archive of all messages passing through the system. The archive shall maintain and report:				
Incoming and outgoing message details, including date, time and external system;				
Incoming message routing details;				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Incoming message clearing details showing all financial / banking ledger entries resulting from such messages;				
Non-authenticated incoming messages;				
Outgoing message sender and authorization details;				
Settlement instructions that are incomplete;				
Unmatched confirmations.				
User permissions. The system shall enable management to clearly specify:				
individual users allowed to post specific transaction types within value bands;				
groups of users allowed to post specific transaction types within value bands;				
individual users having access to specific system functions;				
Groups of users having access to specific system functions.				
Transaction tracking.				
The system shall be able to track transactions received from any other system to the originating transactions created by any user.				
Output Requirements				
System outputs. The system shall support the following output requirements but not be limited to:				
standing data reports;				
authentication reports;				
incoming message routing;				
financial ledger journals;				
confirmed deal tickets;				
confirmation matching reports;				
bi-lateral / multilateral settlement agreement details;				
Payment / receipt instruction slips;				
Payment / receipt instruction amendment slips;				
bank statements;				
bank reconciliation statements;				
deal confirmation reconciliation statements;				
Instruction reconciliation statement;				
Collateral details;				
Collateral maturity details;				
Collateral details by business transaction / deal;				
Counterparty / correspondent performance reports; Using report generator				
audit reports;				
History archive detail reports.				

8.3.3.9 Guarantees

Requirement	Compliant	Modification	3rd Party	Non-compliant
All points in the letter of credit section relating to the on-line real time environment, its associated verifications and control, the separation of inputted and authorizer, the history and audit trail considerations, are valid for the letters of guarantee section. This section refers to the issuing of guarantees to and the receipt of guarantees from third parties and counter guarantees by another bank on behalf of its customers in favour of us or one of our clients.				
System must be able to support processing, sanction, accounting, monitoring etc in the life cycle				

Requirement	Compliant	Modification	3rd Party	Non-compliant
of Bank Guarantees, such as 1. Bid Bonds/Tender Guarantee 2. Performance Guarantee 3. Advance Payment Guarantee 4. Shipping Guarantee/Indemnity 5. Security Bond/Payment Bond (cash guarantee) 6. Standby Letter of Credit				
retention guarantees				
The data requirements can be classified as follows:-				
guarantee number				
Customer				
account number				
Correspondent				
Beneficiary				
guarantee amount				
guarantee type				
date issued				
effective date				
Expiry date				
margin or other security				
Commissions				
rate (standard/special)				
commissions collected				
due dates for next payment				
amendments made				
Date				
amount increase/decrease				
expiry date				
margin increase/decrease etc				
cancellation date				
guarantee history				
Some of the other system features:-				
The set up of a guarantee must be subject to the verification of availability under an approved credit limit. Outstanding amounts must be controlled by customer and product type.				
The System must also control and administer guarantees received from a third party (i.e. as collateral for facilities granted). The third party could be another bank, company or individual.				
Cash collateral processing either in the form of segregation in a margin account or full or partly blocking of another account must be automated as part of the data capture functions.				
The transaction processing related output for the guarantees section is:-				
letter of guarantee (hard copy or via Swift or telex)				
debit advice for commission and charges				
recording of the liability over memorandum accounts				
telex or Swift advice (and free format communications) to correspondent banks regarding guarantees opened at their request.				
amendment advice				
reminder to applicant				
Comprehensive reporting, on-line enquiries and statistics are required to include:-				
List of outstanding guarantees by customer, type and currency.				
Commission and charges by type of guarantee.				
Number of transactions and volumes by type				
Breakdown of the above information into different periods, i.e. monthly, quarterly, yearly.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Commissions due not collected.				
Exception report.				
Activity journal.				
Cancellation of an L/G				
Letter Of Guarantee Functions Supported:-				
Issuance				
Amendments				
Cancellation				
Payment of claim				
Letter of Guarantee Other Features:-				
Availability of word processing to type free format L/C or Guarantee.				
Connectivity, whereby Credit Risk Department, Commercial Banking and International Banking is linked to get up to date information.				
Facility to check utilization of facilities by customers/banks, income by A/c Officer /Division/ Group-wise.				
Connectivity, with communication dept. full swift / telex interface for both incoming and outgoing swift/telex messages				
Facility to input any note on transaction for user's review before action taken..				
Flexibility to accommodate new instructions/regulations.				
Facility to user to approve issuance / processing of transaction despite non- availability of limit.				
Decimals in accordance with respective currency.				
Ability to store reports on diskettes.				
Daily/weekly/monthly back-up.				
Facility to Archive/Purge				
Diarization facility.				
Parameter file for each customer to store specific clauses used frequently and facility to copy /amend the same when required.				
Templates' library to store A clauses required.				
Updating of SWIFT formats and fields in the system by vendor where changes made by SWIFT.				
SWIFT validation				
Authorization controls must be available per field and not per type of transaction.				
Ability to apply two different exchange rates according to exchange rates slabs.				
Facility to reinstate cancelled LCs./ LGs:				
Generate necessary entries upon reinstatement.				
Facility to Cancel Registration Number of Un-Approved LC /LG Application.				
Facility to cancel unapproved amendment request/demand				

8.3.3.10 Treasury

Requirement	Compliant	Modification	3rd Party	Non-compliant
Foreign Exchange				
Functional requirements				
Support both the front and back office operations of the foreign exchange department				
The system should maintain positions which are updated at the time of the deal entry and should include the following: Dealer, Counterparty, Currency and Bank				
Ability for deal cancellation and amendments with proper authority				
Automatic generation of an unique reference number for new trades, amendments and				

Requirement	Compliant	Modification	3rd Party	Non-compliant
cancellations				
Revaluation of open currency positions. This should indicate the profit (or loss) of closing positions at either the current market rates or at a rates specified by the dealer				
The system should support the back office entry of deals on-line				
Capture of settlement details				
Automatic generation of settlements at deal maturity with automatic generation of the payment and the associated accounting entries				
Automatic generation of SWIFT format messages				
(Automatic transmission of SWIFT messages to and from ST-400				
Ability to interface with Reuters 2000 Dealing System				
On line inquiries to do the following:				
Positions, overall and by currency, dealer, transaction type, counterparty, and Bank				
List of trades, by dealer, counterparty and currency				
Profit and loss by currency and dealer				
Maintenance of static data for use within the FX system to include the following:				
Counterparty details, such as postal address, electronic address(es), standing instructions, account numbers, short names				
Currency information, such as country holidays and interest calculation bases				
Logical defaults, warnings and validation wherever possible including the following:				
Default dates, accounting for holidays and weekends				
Default standing settlement instructions once the counterparty and currencies have been entered and confirmed				
Automatic production of supporting documentation (either paper-based or electronic, as appropriate) to include:				
Deal ticket				
Counterparty confirmations				
Customer advice				
Inquiry facilities required on the following:				
Deal inquiry				
Search on partial information				
Ability to accept input data on-line on:				
"Deals done" information from the dealer				
Limits				
Nostro account balances				
Confirmations received				
Payments received				
Market rates, prices				
Ability to support Nostro reconciliation including:				
Automatic linking and confirmation to all incoming and outgoing positions				
Access information on open positions per account				
Search and print information by:				
Amount, exact and approximate				
Time period				
Reference				
Date				
Report on open and closed positions				
Application interaction				
General Ledger System				
Customer Information File				
Customer Accounting System				
Outputs and reporting Requirements				
Detailed listing of Deal (transactions)				
G/L accounting entries				
Payment instructions				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Customer Confirmations and Notices generated				
List of trades, by dealer, counterparty, broker and currency				
List of unconfirmed trades				
Limits and the utilization of the limit, by dealer, currency , country, industry and counterparty				
Nostro positions, showing the balance projection				
Maturity schedules by currency, transaction type and counterparty				
Inward/outward payment list				
Reports to support the reconciliation of:				
Counterparty confirmations against the Bank's trading records				
Broker statements of trades and charges				
Nostro account balances				
Brokerage reports to allow the Bank to monitor and reconcile the brokerage charges. These should show, by broker :				
Commissions paid (also showing any discounts received				
Number of deals				
Deal type.				
Produce a daily open and closed position report				
Money Market				
Functional requirements:				
On-line deal capture to include the following:				
Automatic generation of a unique reference number for each contract				
Dual entry of fields of key importance				
Validation of key data fields for format and consistency				
Test of counterparty, currency and country limits				
Default interest rates, allowing for a manual override for special/preferential rates				
Scheduled or specific interest and principal repayments				
Update of positions and cash-flow for currency and counterparty				
Validation of Dealer's limits				
Validation Dealers name				
Validation Dealers limit				
Deposit certificates (CD)				
Ability for the deal to be performed within the back office				
Transfer between accounts				
Corrections				
Debit/credit Nostro account				
Modification of details and conditions to include the following:				
Change of interest rate				
Change of interest basis				
Different interest calculation methods to include the following:				
Banded, tiered and different Dr/Cr rates				
Based on 365, 360 year and 30-day month accrual				
Interest accrual and posting treatment to include the following:				
Interest posted to the same account				
Interest posted to a different account				
Nominal interest calculated, and not posted				
On-line inquiries to include the following				
Positions				
Cash-flows				
Outstanding trades/open positions				
Limit availability				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Ability to enter the following information on-line:				
Deal tickets				
Interest rates				
dealer's name				
Type of limit				
Other Functions				
Automatic generation of accounting entries				
Automatic generation of instructions to the payments system				
Confirmation production, delivery/receipt statements				
Automatic generation of SWIFT format messages				
Automatic transmission of SWIFT messages to and from ST-400				
Automatic sending documents by telex				
Application interaction				
General Ledger System				
Customer Information File				
Customer Accounting System				
Outputs and reporting Requirements				
G/L accounting entries				
Customer accounting entries				
Daily activity log to include deals done and maintenance				
Profitability by Dealer & Currency:				
Limit utilization and excesses				
Forthcoming events report				
Gapped maturity analysis				
Asset and liability maturity ladder.				
Daily interest income report				
Report generator capability				
Daily Money Market Reports based on Currencies, Bonds and T-Bills, Deposits, CD's, Other type of instruments.				
The system must support the following products:				
Purchase of T-Bills at primary market				
Purchase/sale T-Bills at secondary market				
Interbank deposit in Taka and foreign currencies				
Repo and reverse repo				
Deposits at negotiable terms				
Time deposits in Taka and foreign currencies				
Spot foreign exchange				
Forward transactions				
Swap transactions				
Investment in foreign paper				
Currency options				
Cash transactions				
The system must support limits based on the Banks business functions. These must include:				
Currency				
Counterparty				
Customer				
Product				
Country				
Positions				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Dealer				
Other Functions:-				
Cut-off time possibility in the whole bank				
Define the transaction flow and processing of a transaction received after the cut-off time				
Possibility of automatic receipt of exchange rates from external systems (Reuters, Telerate, files in different formats)				
Classification of deals into user-defined subtypes to allow different reporting and settlement treatment				
Classification of customers/counterparties to allow transactions to be processed in specific manners				
Application interactions				
General ledger file				
Foreign Exchange file				
Money market file				
Trade finance file				
Customer information file				
Customer accounting files				
Outputs and reporting Requirements				
Daily reports that provide the following information to the bank;				
Exchange rate exposure				
Interest rate exposure				
Maturity ladder				
Liquidity position				
Daily report given the closing balances and account activity for:				
Nostro				
Vostro				
Report on deposits accepted and placed for fixed notice or call as:				
Mis-match report				
Maturity date report on deposit/placement due				
Total outstanding deposits/placements by account in each currency :				
Name of party				
Principal				
Maturity date				
Interest rate				
Interest payable/receivable				
Transaction profit/loss report for:				
Dealer				
Transaction				
Currency				
Other functions				
Currency position report showing long/short/net for each currency by maturity bucket and an aggregate of the net short position				
Report generator capability				
Maturity profile report listing the main balance sheet elements for treasury and liquidity management monitoring. This report to show both legal and reprising maturity profiles				
Can the system process transactions with different forward value dates and track them separately per value date?				
Can the system process data based on inputs as follows :				
Transaction Reference Number				
Transaction Type (Purchase or Sale)				
Booking Unit/Branch				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Branch Contact Person				
Counterparty				
Deal Date				
Value Date				
USD Amount				
Exchange Rate				
Taka Amount				
Underlying Reference Number				
USD Payment Instructions				
Taka Payment Instructions				
Based on inputted exchange rate, can the system compute for the Taka amount given the USD Amount and vice versa?				
Given the above inputs, can the system provide real time summary information on the day's transactions as follows:				
Total Purchase Transaction				
Total Sale Transactions				
Trading Gain/(Loss) on Total Turnover				
Net Overbought/(Oversold) FX Position				
Forward Cash Position per Value Date				
Can the system carryover the end-of-day's closing position to become the succeeding business day's opening position?				
Can the system maintain a database on counterparties as follows:				
Total Trading Gain/(Loss) per Counterparty/per Branch/per Value Date based on the actual transaction rate versus the end of day Interbank Market Closing Rate.				
Can the system maintain a database on month-to-date and year-to-date Purchases, Sales and Trading Gains/(Losses) per Trader?				
Can the system generate Confirmation sheets per transaction?				
Can the system perform on-line real-time purchase and sale transactions with branches as counterparties?				
Can the system track separately the price used between (a) Treasury and the Branch and (b) the Branch and the client?				
Can the system generate chronological transaction reference numbers for each transaction?				
Does the system allow the user to define its own exchange rate format?				
Can the system maintain a database on counterparties and their corresponding credit /settlement limits?				
Can the system monitor outstanding availment against counterparty limits and provide real-time line availability per counterparty?				
Can the system issue an alert message for every transaction that exceeds counterparty limit				
Does the system allow the authorized user to define the end-of-day and intraday net overbought/ (oversold) FX position limits of the trading desk?				
Can the system issue an alert message whenever limits or Management Action Trigger (MAT) levels are breached?				
Can the system define the status of each transaction as follows:				
Confirmation Status – if printout of Confirmation sheet is still pending				
Process Status - if transaction is still pending backroom processing				
Approval Status - if transaction is still pending approval by authorized officer.				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Alert Status – for transactions that violate prescribed limits, if the transaction has been approved and the limit exception overridden by an authorized officer.				
Can the system provide default entries into certain fields (e.g. deal date defaults to current date)?				
Can the system process internal transactions between trading desks?				
Swap Points – given the Spot Rate and the Interest Rate Differential (IRD)				
Forward Rate – given the Spot Rate and the Swap Points				
Swap Points – given the Spot Rate and the Forward Rate				
Interest Rate Differential (IRD) – given the Spot Rate and the Swap Points				
Can the system support a multi-desk concept? (i.e. commercial desk, interbank desk, swap desk, etc.)				
Can the system provide a unique dealer's code / password?				
Can the system provide multi-level security access code / authorization?				
Can the system provide a log of all logins / logouts with date and time stamp?				
Can the system provide selection for regular or FCDU book?				
Can the system process outright forward purchase and sale of Third Currencies (Thirds) against US Dollars (USD) or outright forward purchase and sale of USD against Thirds?				
Can the system process outright forward purchase and sale of one-third currency against another? (cross currency dealings)				
Can the system allow the dealer to choose the base currency? (i.e. USD or Thirds)				
Can the system be configured for forward FX position limits and controls?				
Does the system allow the authorized user to define intraday overbought / Oversold forward position limit per trader per trading desk?				
Does the system allow the authorized user to define overnight overbought /oversold forward position limit per trader per trading desk?				
Does the system allow the authorized user to define stop-loss and management Action trigger (MAT) per trader, per currency, per trading desk on forward positions?				
Can the system issue an alert message whenever limits or management action triggers (MAT) levels are reached / breached?				
Can the system allow the authorized user to define transaction levels of approving authority?				
Can the system provide a drop-down window of counterparty lines?				
Can the system maintain a database on counterparties and their corresponding credit / settlement limits?				
Can the system earmark forward transactions against counterparty limits based on a user-defined percentage of the principal amount				
Can the system monitor outstanding availments including forward positions against counterparty limits and thereby provide real time line availability per counterparty?				
Can the system issue an alert message for every transaction that exceeds counterparty limit?				
Can the system provide the dealer and risk manager warnings / signals upon breach of limits/ controls?				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Can the system provide real time exception report on all limits / controls that has been breached and given due override?				
Can the system capture deals automatically from Reuters dealing screen?				
Can the system process data based on the following inputs:				
Transaction type (forward purchase or forward sale)				
Currency (tickers – EURO, INR, JPY, DEM, GBP, CHF, FRF, AUD, etc.)				
Booking unit / branch				
Booking type (contingent)				
Contact person				
Counterparty (client's name, third currency inter-bank desk – FCDU)				
Deal date (transaction date)				
Value date (today, tomorrow, spot; default value date can be configured)				
Third currency amount				
Forward exchange rate				
USD amount				
Settlement mode				
Underlying reference rate (if any)				
Can the system process transactions with different forward maturity dates and track them separately?				
Can the system process provide default entries into certain fields? (i.e. deal date, value date, etc.)				
Can the system provide auto dating on all its dealings and report including time stamp?				
Can the system maintain a database of all forward purchase and sale transactions with their respective volumes and transactions details which can be viewed on line, printed or do a search query for a particular period requested or at a particular point in time?				
Can the system provide a drop-down window of currency tickers and maintain a database of all transactions per currency?				
Can the system maintain a database of all forward transactions per booking unit / branch for a particular period of time?				
Can the system maintain a database on counterparty information details as well as provide a drop-down window for counterparty code / client name?				
Can the system maintain a database on counterparties as follows:				
Total forward purchases and weighted average rate per counterparty / per booking unit / branch / per value date				
Total forward sales and weighted average rate per counterparty / per booking unit / branch / per value date				
Total trading gain / (loss) per counterparty / per booking unit / branch / per value date				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Can the system maintain a database of all underlying reference numbers?				
Based on the exchange rate, can the system compute for the USD equivalent given the third currency amount or vice-versa?				
Can the system automatically generate transaction / reference numbers chronologically per transaction or as defined by dealer?				
Can the system define the status of each transaction as follows:				
Confirmation status - if printout of confirmation sheet is still pending				
Approval status- if transaction is still pending approval by authorized officer				
Alert status – for transactions that violate prescribed limits, if the transaction has been approved and the limit exception overridden by an authorized officer				
Can the system provide an "Accept" command for each transaction to allow dealers to verify details of transactions prior to having it processed?				
Can the system allow authorized officers to approve transactions and override limit exceptions via direct entry into workstations with passwords as security feature?				
Given the transaction inputs, can the system provide real time summary on the day's transactions as follows:				
Total forward purchase transactions				
Total forward sale transactions				
Net overbought / (oversold) forward FX position				
Value today forward cash position				
Value tomorrow forward cash position				
Value spot forward cash position				
Can the system generate confirmation of forward purchase or sale after each transaction?				
Can the system provide calculator mode for simulating P & L?				
Can the system provide real time intraday trading gain / (losses) in USD & PHP per dealer as well as total P & L per desk including transaction volumes?				
Can the system perform on line, real time forward purchase and sale transactions with branches / units as counterparties?				
Can the system track separately the price used between (a) Treasury and branch and (b) the branch and the client? (separate P & L for Treasury and branch)				
Swap points – given the spot rate, interest rate differential (IRD) and tenor				
Forward rate – given the spot rate and the swap points				
Swap points – given the spot rate and the forward rate				
Can the system process internal transactions between trading desks?				

8.3.3.11 Asset / Liability Management System

Requirement	Compliant	Modification	3rd Party	Non-compliant
A complete analysis (by currency) of the banks assets and liabilities by both legal and repricing maturities				
User defined reports				
Interfaces with				
General Ledger				
Deposit Module				
Money Market Module				
Loans				
Trade Finance Module				

8.3.3.12 Investment.

Requirement	Compliant	Modification	3rd Party	Non-compliant
Ability to trace inter-branch (physical) movement of securities.				
Ability to interface with customers current accounts.				
Ability to create automatic accounting records for different products/operations.				
Ability to show the banks and Mutual Funds Portfolio position on-line.				
Ability to allow buying / selling transactions At branch level with separate inventories and compare the activity in branches.				
Ability to support custody service by :-				
Charging the customers for this service according to predefined calculation method(s) a) Providing custody accounts for customers. b) Providing historical information c) Providing necessary reports and customer statements d) Portfolio revaluation and profit/loss analysis				
Ability to record at security level ; a) number b) type c) date of expiration d) date of coupons e) number of coupons f) revaluation date g) revaluation method h) return rate i) nominal value j) cost k) location				
Ability to handle operations related with Mutual Funds ; a) buying / selling transactions of Fund shares in branches ▪ *from teller terminals (with cash total update if cash involved).* ▪ updating custody records (if custody involved). ▪ by producing system generated customer G / L accounting for branch and Mutual Fund				

Requirement	Compliant	Modification	3rd Party	Non-compliant
b) comparative statistical reporting of branch activity ; ▪ total shares sold to customers ▪ total shares bought from customers ▪ total shares in circulation (adjustment entries may be necessary requiring the system to recalculate, update and report) ▪ daily average shares in circulation ▪ other user defined. c) buying / selling of securities for (on behalf of) Mutual Funds as an entity (special accounting may be required for each mutual fund.) d) inventory revaluation for Mutual Fund security portfolios. e) pricing of Fund shares f) on-line inquiry for the location of Fund shares which are not in circulation. *g) Separate reporting and G / L account Code set (index) for Mutual Funds being an entity.*				
Ability to provide reconciliation procedures for all operations.				
Ability to introduce different product types and determine the profit / loss calculation.				
Ability to incorporate data : a) from different emission sources b) for mark to market purposes				
Ability to produce deal slips.				
Ability to support operations related with coupons.				
Investor Services				
Unitized Fund Launch				
Unique Identification – Provision fund uniquely identified by a fund code.				
Flexible Fund Parameters - Provision to define and setup the related fund parameters (i.e. initial fees, agent commission rates, income distribution frequency, tax rates, etc.)				
Flexible Transaction Parameters - the system have the flexibility to set a minimum and maximum per transaction				
Multiple Fund Types - Provision to administer multiple fund types (i.e. equity, gilt, income, money market, fund of funds, Open Ended Investment Companies (OEICS), etc.)				
Multiple Fund Products – Provision to administer multiple unitized retail fund products (i.e. Indian Funds Bangladeshi Funds, and International Funds)				
Unit holder Parameter Definition – Provision to define and setup the unit holder parameters.				
Agent Parameter Definition – Provision to define and setup agent parameters.				
Transaction Parameter Definition – Provision to define and setup the transaction types and unique parameters for each type.				
Banking Parameter Definition - Provision to define and setup banking information per fund.				
System Warnings - the system have the flexibility to set different system warnings.				
Multiple Pricing - Provision to define and setup multiple pricing per fund for different transactions and fees?				
Initial Fee Band – Provision to define and setup initial fee bands based on a percentage on a sliding scale?				
Agent Commission Band – Provision to define and setup agent commission bands based on a percentage on a sliding scale				
Fee Deregulation				
A and B Classification – Provision to define and setup different unit holder classifications.				
Back End Fees - the system cater for back end fees				
Trailer Commission Fees – the system cater for trailer commission fees				
Multiple Service Fees – the system cater for multiple service fees				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Transaction Fees – the system cater for transaction fees				
Switching Fees - the system cater for switching fees				
Promotions and Discounts – the system cater for promotions and discounts on initial charges, back end -, service - or transaction fees				
Transactions				
List the transaction types that the system caters to:				
Transaction Types - Provision to define and setup different transaction types				
Investment Lump sums – the system cater for lump sum investments				
Payment Method – method/s that the system cater for effecting transaction payments (i.e. investments, repurchases, commission				
Transaction Methods - Provision to effect transactions in units, amount, or percentage (i.e. Switch X %, or X units / currency)				
Investment Savings – Provision to define a monthly debit order investment (savings plan)				
Repurchase Withdrawals – Provision to define a monthly repurchase (withdrawal plan)				
Monthly Switch – Provision to define a monthly switch transaction				
Switch Differences - the system automatically calculate the difference in initial fees when units are switched between funds?				
Transfers - the system cater for transfer of units in the same fund between different unit holders				
Combination Plans – Provision to define combinations of saving and withdrawal plans				
Automatic Plans – the system cater for automatic processing of the defined saving and withdrawal plans				
Effective Date – Provision to effect the defined saving / withdrawal plan on any day of the month				
Escalation – Provision to define and set an annual investment escalation percentage				
Linked Fee Structures - Provision to have different transaction types linked to different fee structures				
Linked Bank Details - Provision to have different unit holder bank details linked to different transaction types				
Transaction Amendments				
Transaction Cancellations - the system cater for transaction cancellations.				
Transaction Changes - the system cater for transaction changes.				
Transaction Overriding – it is possible to override the defaulted transaction details before processing a transaction.				
Transaction Reversals				
Investment Reversals - the system cater for investment transaction reversals when the investment has been processed and commissions have been paid.				
Repurchase Reversals - the system cater for repurchase transaction reversals.				
Switch/Transfer Reversals - the system cater for switch/transfer transaction reversals when the switch has been processed?				
Debit Order Reversals - the system cater for debit order transaction reversals when the debit order is unpaid.				
Stop Order Reversals - the system cater for stop order transaction reversals when the stop order is unpaid.				
Reinstatement of Reversals - the system reinstate the original number of units after the reversal has been affected.				
Automated Reversals - the system cater for automated reversal of fees and commissions.				
Transaction Authorization				
Online Authorization - Provision to perform online authorizations before processing the transaction				
Authorization Levels - Number authorization levels can be defined per transaction type.				
Transaction Logs – the system keep a full record of all transactions conducted on the system				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Transaction Printing				
Statements - Provision to define and setup the statement printing parameters per unit holder / agent.				
Consolidated Statements – Provision to print consolidated statements per unit holder / agent by fund for all funds.				
Ad hoc Statements – Provision to print ad hoc statements by specifying from and to dates.				
Cheques – the system cater for the printing of pre numbered cheques.				
Capture – Is it possible to capture unit holder certificates?				
Block –the system block the unit holders transaction units (i.e. switch, transfer, and repurchase).				
Surrender –the system cater for the surrender of certificates.				
Printing – possible to print certificates.				
information can be printed Fund Units Unit holder Name Certificate Number Other (specify): Mode of holding Issue date Par value of the fund User input remarks on the certificates				
Income Distribution				
Purchased Income – Does the system have a purchased income facility?				
Raise – Is the distribution raised for each fund?				
Tax – Does the system automatically calculate and update the unit holder's account with the income distribution tax information?				
Calculation – How does the system perform a distribution calculation?				
Unit Holders				
Unique Identification - Is each unit holder uniquely identified by a code?				
Flexible Codes - Can the unit holder code be defined and setup according to client specification?				
Automatic Next Number - Does the system automatically generate the next code?				
Title Definition - Is it possible to setup and define unit holder title types (i.e. MR, MRS, MS, etc.)?				
Agent Assignment - Is it possible to assign more than one agent to the unit holder investment?				
Fund Assignment - Is it possible to assign different unitized funds to a unit holder?				
Payment Methods - What transaction payment methods are for unit holders?				
Unit holder Queries - Does the system have easy query facilities to access unit holder information?				
If so describe in more detail.				
Commission Fee Structures - Is it possible to define and set different commission fees for Fund Type				
Agents				
Unique Identification - Is each agent uniquely identified by a code?				
Flexible Codes - Can the agent code be defined and setup according to client specification?				
Predefined Details - Is there a predefined set of agent details that can be captured?				
Agent Details – If, indicate the agent details. Code Surname Forename Initials Address Postal Code				

Requirement	Compliant	Modification	3rd Party	Non-compliant
Telephone No. Fax No. Email address				
Agent Queries - Does the system have easy query facilities to access agent information?				
Agent Levels – How many structured agent/broker levels does the system cater for?				
Commission Fee Structures - Is it possible to define and set different commission fees for agents?				
Payment Method – What type of commission payment methods are to the agent? Cheque Capital Accumulator				
Banking				
Setup - Is it possible to define and setup banking details? Per Unit holder Per Other				
Banking Details - Indicate the banking details. Institution Name Institution Code Account Number Account Holder Branch Code Account Type				
Multiple Bank Accounts - Does the system have the facility for more than one bank account for Unit holders, Agents, Others?				
Number - How many bank accounts can be maintained per Unit holder, Agent, Other?				
Default Bank Details - Does the system default the bank details for a transaction type for Unit holder, Agent, Other?				
Pricing				
Pricing Method – What pricing method can the system be based on? Whether future or historic or Both?				
Fund Pricing - Is it possible to setup and define the pricing parameters for each different fund?				
If so, what parameters?				
Decimal Points – Is it possible to setup and define the number of decimal points for the prices?				
Decimal Rounding – Is it possible to setup and define the decimal point rounding for the prices?				
Management Information and Reporting				
Agent Reports – What standard agent reports are defined in the system?				
Fund Reports – standard fund reports are defined in the system				
Administration Reports – standard administration / transaction reports are defined in the system				
Accounting Reports – standard transaction reports are defined in the system				
Marketing Reports – standard transaction reports are defined in the system				
Statistical Reports – statistical reports are defined in the system				
Reporting Tools - third party reporting tools are supported				
Flexible Reporting - Provision to define and set-up ad hoc reports in the system				

8.3.3.13 Merchant Banking

Requirement	Compliant	Modification	3rd Party	Non-compliant
Products				
Creation of different product type(Features of the products should be parameterized)				
Account Management				
Account opening, editing, closing				
Marking inoperative, dormant/deceased				
Margin loan ratio setting: It should be parameterized, individual security wise including implementation date.				
Fund Management:				
Cash receive/payment & confirmation				
Cheque receive/payment & honor/dishonor				
Fund withdrawal				
Internal fund transfer				
Brokerage house wise netting and cheque receive/payment				
Option for correction of wrong posting				
IPO & Placement Management:				
Right share management:				
Dividend Management:				
Cash dividend				
Stock dividend				
Fractional stock dividend				
Accounting:				
Integrated with customer side.				
Daily cashbook				
Daily Trial Balance				
Head wise subsidiary ledger				
ID/user wise ledger				
Profit & Loss A/c & Balance Sheet (Branch wise and centralized)				
Daily Statement of Affairs (Branch wise and centralized)				
Month wise & Branch wise Income & Expenditure comparison.				
Auto voucher				
Reports:				
Portfolio Statement (as on & date wise)				
Transaction Statement (Date range & stock wise)				
Capital Gain Report (Detail & summary)				
Netting Statement (Broker wise & Client wise)				
Purchase & sales statement (date wise)				
Payin & Payout report				
Total stock report				
Loan Statement (Date wise)				
Client information report (Consolidated & client wise)				
IPO, Dividend, Right Share declaration, allocation, collection				
Report				
Cash & cheque receive/payment report				
Client wise Management report (Financial)				
Revenue Report (Consolidated PF transaction fee, Int. on loan &				
PF Management fee.)				
Interest wise & size wise breakup of deposit & loan				
Maturity grouping of assets & liabilities				
Net payable/receivable from brokers (broker wise & consolidated)				
All other reports as required by regulatory authority.				

8.3.4 Other Documentation

8.3.4.1 Design, Implementation Methodology and Deliverables

8.3.4.2 Design and implementation of Transaction Processing Applications:

a. Preparation of the detailed functional design and requirements for the specified systems and development of specifications for the Technology Architecture required for the implementation of these systems.
Development and defining a new set of functional processes, information flows, procedures, transaction types and associated documents and forms, and related structures required to set up the new systems.
Developing a full functional design for the computer systems required, including the specification of the major databases and data entities, the outputs reports, the input formats, transaction documents, input screen designs, processing and controls for the systems required at various nodes of the information flow network, the interfaces and data flows between these nodes and with external systems.
Reassuring and developing specifications for additional hardware required to implement these systems.

Key deliverables:
Functional design document and technology architecture for the information systems;
Complete set of transaction documents, reporting formats descriptions of procedures and associated manuals required for the implementation of the systems; and
Application systems design.

b. Provisions for Application software on the basis of the functional analysis which could include:
Investigation and ascertaining one or more off the shelf software packages to meet the functional requirements of one or more of the systems to be implemented.

The results of the application software package evaluation process with recommendations for possible packages of customized application or developed application which could satisfy the requirements of the proposed systems.

c. Complete implementation of key deliverables indicated in 1a and 1b above. This will also involve preparation of a planned turnkey implementation schedule, supply (or arrange supply) and installation of hardware, application software, systems software, RDBMS, and application development tools etc., installation and testing of the application systems, data conversion, and training end users.

System Management, Administration and Security Requirements.

Vendor's Response to System Management, Administration and Security Requirements of On-Line CBS(This must be completed and submitted by the vendor with the technical bid).

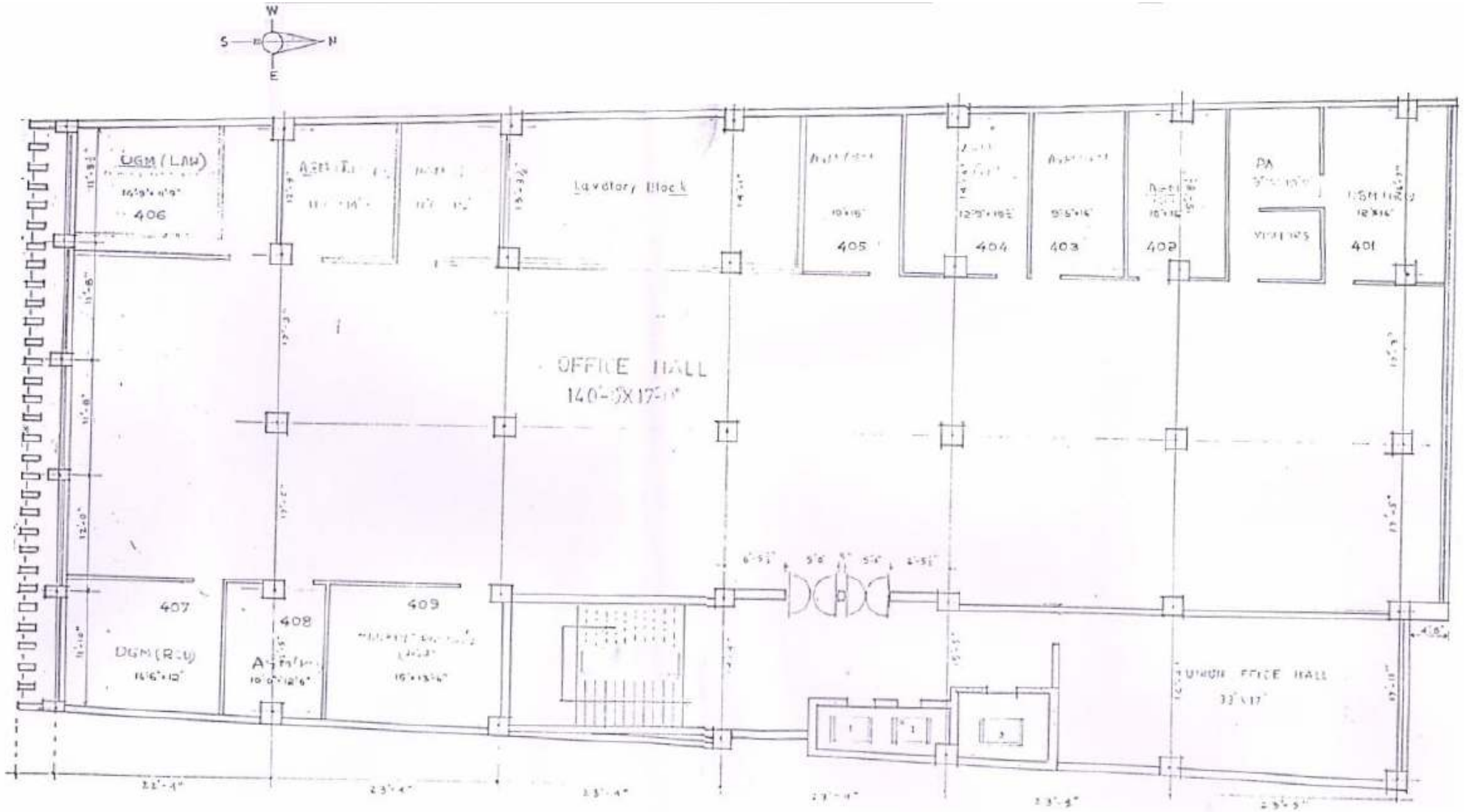
Requirement	Compliant	Non-Compliant	Remarks
System Management, Administration and Security Specifications			
General Requirements:			
CENTRAL SYSTEM MANAGEMENT (MANDATORY) The system is to be controlled centrally. Amendments and set-up of new database information must be automatically downloaded, at any time, for use by terminals in Branches and this data must be consistent at all times throughout the whole system. Products will be defined on the system and all changes controlled centrally Standard procedures for changes to conditions (interest rates, fees, charges addresses, customers branches, etc.) regardless of product or service; such changes need only to be entered once from a central location and immediately applied to all relevant functions in all the operating systems Maintenance and automatic update from a central location of operating procedures and internal regulations; updates should be by batch during the close of business period. The central unit of the Bank should be able to define customer statements and advices and modify these as required The form of internal reports should only be able to be modified, as required, by the central unit Changes to conditions (interest rates, fees, charges, etc.) will be made once and immediately applied to all relevant functions in the systems			
ARCHIVING AND STATISTICS (MANDATORY) The system should have the ability to purge and archive data at user defined periods, for each transaction type.			
Main Functions History of all unexpired transactions maintained on the system Referenced archiving of historical information removed from the system Historic records of some data, e.g. interest rates and exchange rates, will need to be kept for specific periods. The length of the period must be parameterized. Ability to run reports weekly, monthly, quarterly, annually and as required Reports available on screen to authorized users when required and printed when requested.			
The system should maintain statistics on all transactions handled by: Transaction type Customer Customer type Currency Originating Outlet Account and Transaction Type turnover Average balances Best and Worst Position Management of Archived Data • The system should contain an historical data archiving system			

• The System must provide access to the archived data in a time not exceeding **3 hours**; however the data not older than 2 years must be accessible in time not exceeding **15 minutes**. • Support of existing historical data must be assured in the event of change of the version of the application and/or database. • The system should contain an archiving system for selected reports for the Host Centre using the write-once media. In addition to the management, administration and security requirements specified in each section covering the various hardware and software components of the System, the System must also provide for the following management, administration and security features at the overall system level. **Technical Management and Troubleshooting:** Supporting network software will be required to provide • Performance monitoring and diagnostic tool giving immediate system information • Assurance of availability and optimal performance of Network Operating System Software. • Automation of data protection and media management • Accurate and timely reports to prove IT service quality levels • For centralised software distribution			
SECURITY (MANDATORY)			
General Requirements			
The system must have full security facilities to control access to data and processing at each terminal meeting **C-2 security standards**. Security and encryption means used by the system must comply with international standards			
Access to the system Passwords related to an individual not a terminal Passwords stored and transmitted in an encrypted format Password change frequency should be maintainable Terminal should be disabled after three unsuccessful log-on attempts Automatic deactivation of a terminal after non use for a specified time Input to the system may require up to three levels of authority. Each user to be presented with a tailor made menu, which provides access to tasks for which he is authorized. The user profiles should be defined on the central system Access to all central system functions, subject to security needs, should be available from all Outlets and the Outlet system should be wholly compatible with the central system.			
Controls Ability to limit operators authority to a maximum amount for particular transaction types Transaction processing rules within the Bank identify the officers and levels of authority required to enter each type of transaction Rules to identify officers with authority to authorize each type of transactions built into the system			

Audit
• Access by each individual to be monitored and logged:
  • Starting time
  • Ending time
  • Time terminal inactive
  • Terminal Number (workstation)
  • Number of unsuccessful sign-on attempts
  • Journal of all error messages and reversals
• Reports must be available on user actions as log-on attempts, data removals, additions, changes
• On-line real-time maintenance of static data changes should have a defined strict security control, all modifications are to be included in the end of day audit trail with reference to the terminal, user date and time of any amendments			

Data Security within the Application The host computer must operate without interruption in case of failure of a single/multiple disk There must be a backup/recovery solution assured for the system data The total data recovery for the host computer must be possible in less than 6 hours A failure of a single data storage medium (e.g. tape, disk) of the multiple tape archived backup or transaction log type data may not cause problem/limitation of data recovery. There should be a possibility to restore the state of data back to a defined moment in time There must be a mechanism for controlling internally the integrity of databases			

Annexure-01



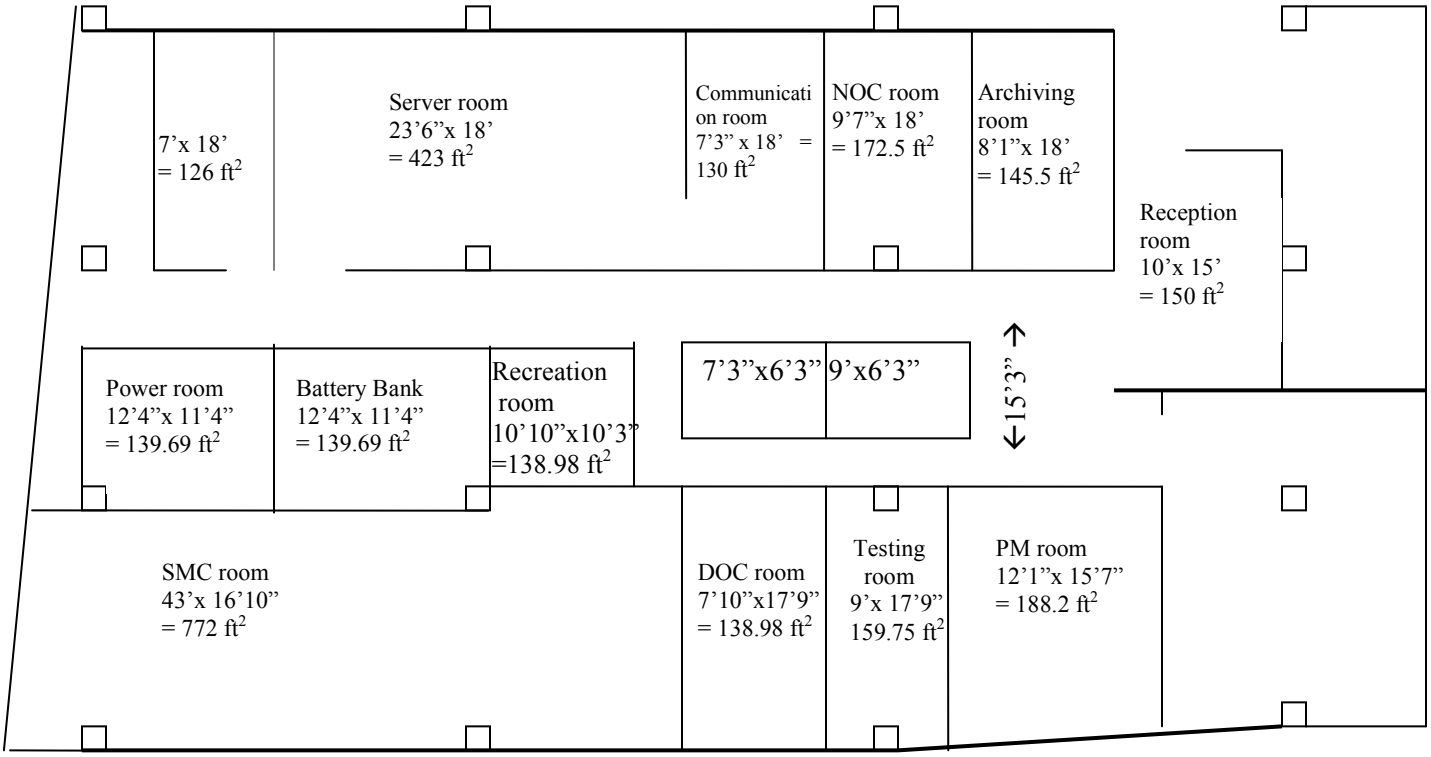
THIRD FLOOR PLAN
SCALE 1.50

RUPALI BANK OFFICE DILKUSHA C/A, DHAKA

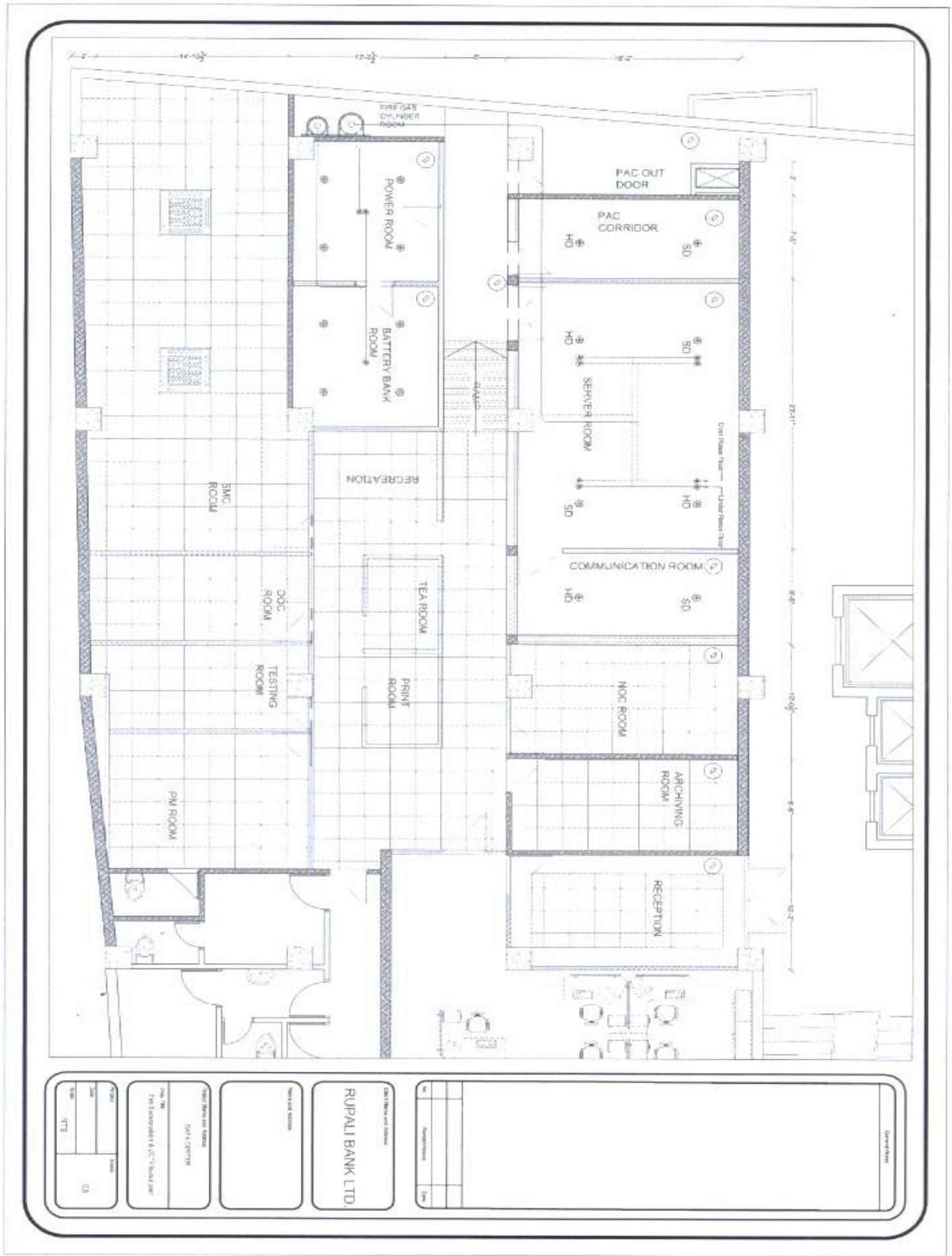
Annexure-01

Rupali Bank Ltd

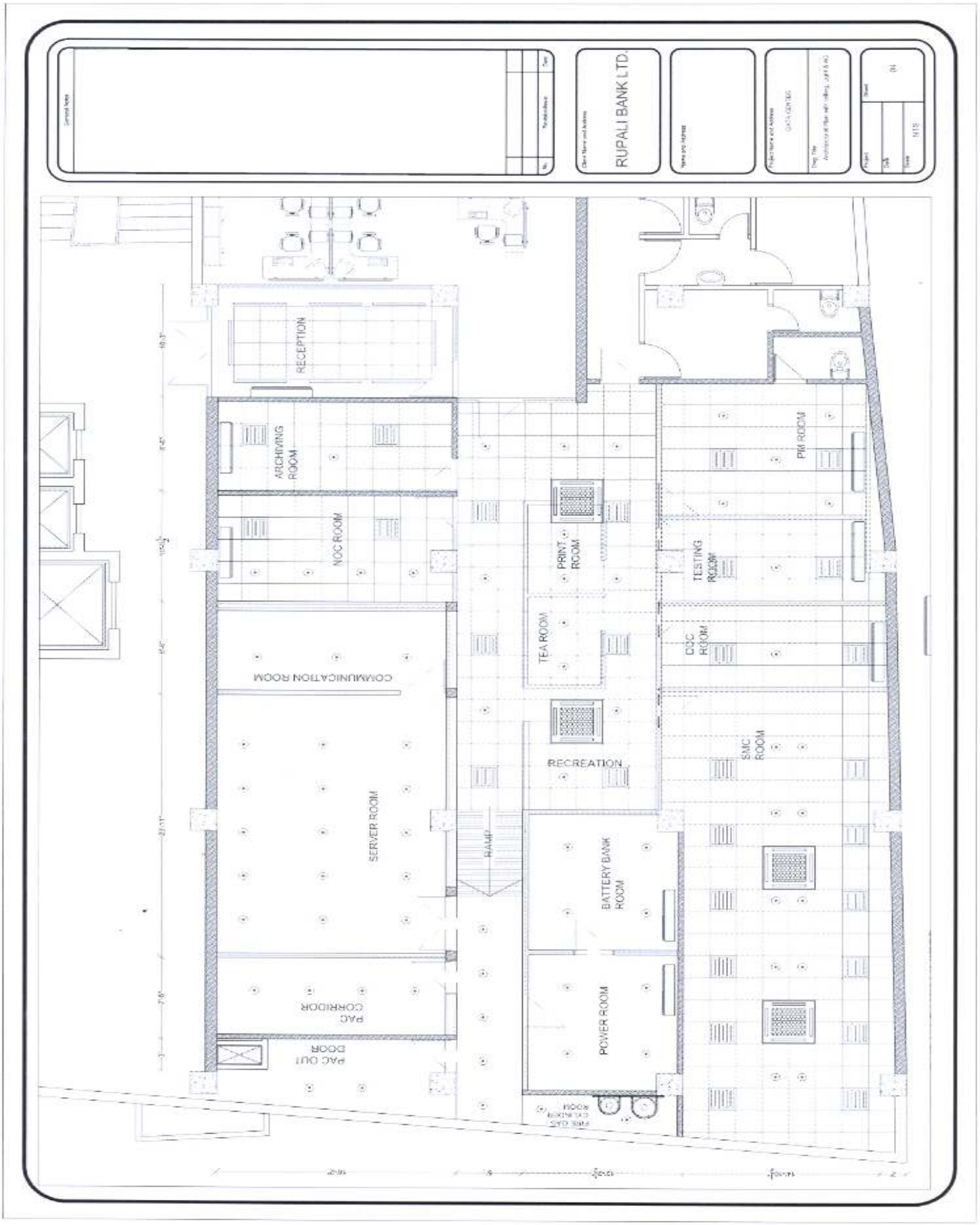
Computer Division
Floor Layout of DC (3rd floor)
Head office,
Dhaka.



Annexure-01


FIRE GAS CYLINDER ROOM
POWER ROOM
BATTERY BANK ROOM
RAMP
PAC OUT DOOR
PAC CORRIDOR
HD
SD
SERVER ROOM
Under Raised Floor
COMMUNICATION ROOM
RECREATION
SMC ROOM
DOC ROOM
TEA ROOM
PRINT ROOM
TESTING ROOM
PM ROOM
NOC ROOM
ARCHIVING ROOM
RECEPTION
RUPALI BANK LTD.

Annexure-01


RUPALI BANK LTD.
RECEPTION
ARCHIVING ROOM
NOC ROOM
PRINT ROOM
PM ROOM
TESTING ROOM
TEA ROOM
CDC ROOM
COMMUNICATION ROOM
RECREATION
SMC ROOM
SERVER ROOM
RAMP
BATTERY BANK ROOM
PAC CORRIDOR
PAC OUT DOOR
POWER ROOM

Annexure-01

Rupali Bank Ltd.

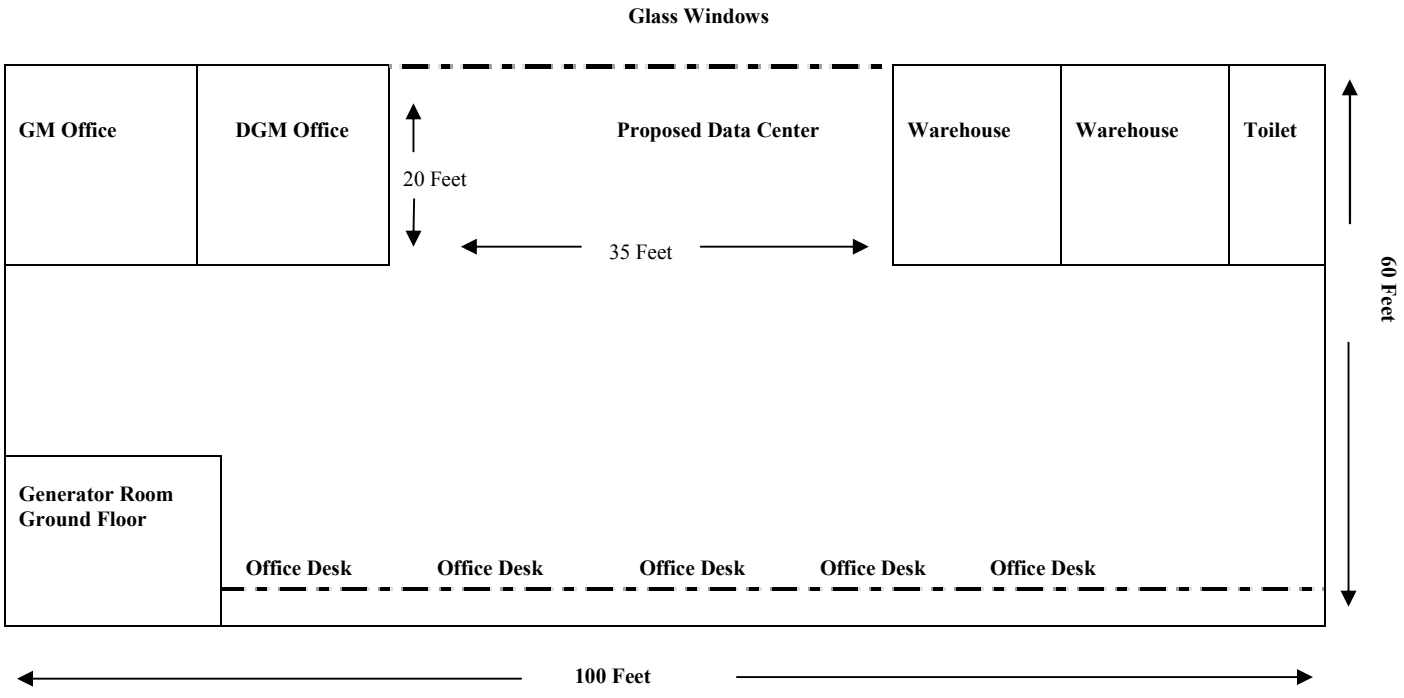
Disaster Recovery Center

Site Survey Report :

- Old but strong building.
- 2nd Floor has been chosen for Data Center.
- Total floor details bellow :

  Length : 100 feet
  Width : 60 feet
  Height : 12 feet

Rupali Bank – Narayangonj Branch – 2nd Floor



Annexure-01

Proposed place for Data Center : (2nd Floor)

Length : 35 feet
Width : 20 feet
Height : 12 feet

- In this place three sides is surrounded by brick wall, one side completely open. There are windows in one side that needs to covered by weather resistant board.

Power:

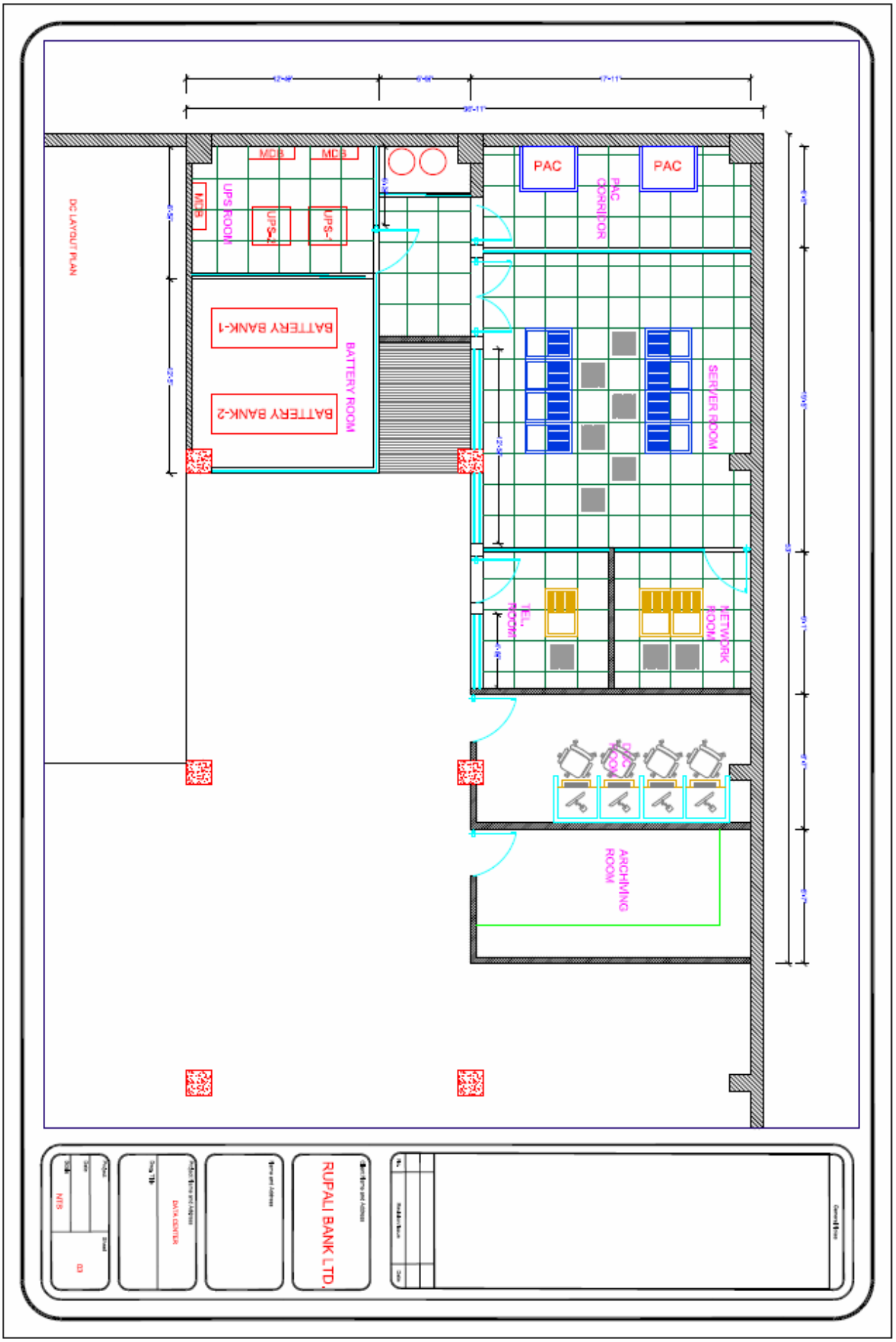
- Main distribution board is located at ground floor under the stair.

  Length: 12 feet
  Width : 16 feet
  Height: 12 feet

- Generator can be place here.
- Commercial power came from the transformer located opposite of the building across the road. Three phase cable needs to be change for new development.
- Power room to DC cable route could be a big challenge because no dark space for cable routing.

NOTE: Need to talk with building Architect, to know the maximum load (Weight) capacity that each floor can take.

Annexure-01


DC LAYOUT PLAN
MDB
MDB
MDB
UPS ROOM
UPS-2
UPS-1
BATTERY BANK-1
BATTERY BANK-2
BATTERY ROOM
PAC
PAC
PAC CORRIDOR
SERVER ROOM
TEL. ROOM
NETWORK ROOM
PC ROOM
ARCHIVING ROOM
RUPALI BANK LTD.
DATA CENTER
NTS

Annexure-02

MANTISSA
DESIGN & CONSULTANT

তারিখ : ১৪-০৭-২০১০
বরাবর,
উপ মহাব্যবস্থাপক
প্রকৌশল বিভাগ,
রূপালী ব্যাংক লিমিটেড

বিষয়: ডাটা সেন্টারের ভারী যন্ত্রপাতি স্থাপন প্রসঙ্গে।

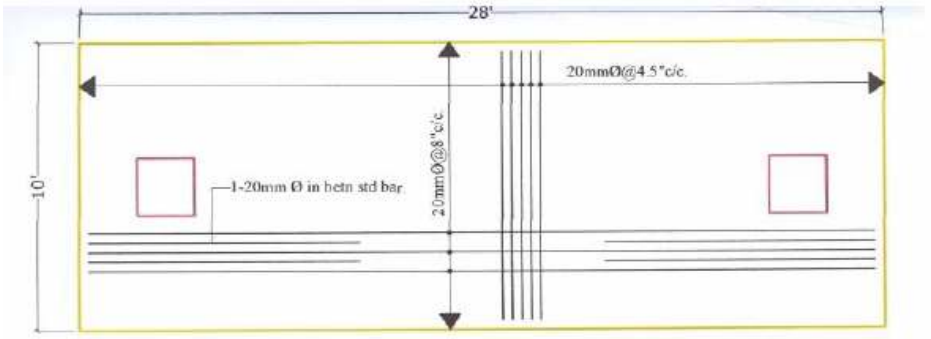
জনাব,

যথাবিহিত সম্মান পূর্বক আপনাকে জানানো যাচ্ছে যে, আমি নিম্নো স্বাক্ষরকারী একে.এম.হাসান জুলকার নাইন এই মর্মে অবহিত করছি গত ১২-০৭-২০১০ ইং তারিখে প্রকা/ প্রকৌ/ ৩৩১ নং সূত্রের চিঠির ভিত্তিতে Mantissa Design & Consultant এর পক্ষ হতে আমি নিম্নো স্বাক্ষরকারী গত ১৩-০৭-২০১০ ইং তারিখে সরজমিনে পর্যবেক্ষনের মাধ্যমে, রূপালী ব্যাংকের IT Consultant এর তথ্যের ভিত্তিতে এবং রূপালী ব্যাংকের Existing Building এর Structural Analysis ভিত্তিতে এই সিদ্ধান্তে উপনীত হচ্ছি যে, ডাটা সেন্টারে ব্যবহৃত ভারী যন্ত্রপাতি Existing Building এর Floor এ সরাসরি স্থাপন করা সম্ভব না। এই ক্ষেত্রে Column To Cloumn একটি অতিরিক্ত Beam নির্মাণ করে , Beam এর উপর যন্ত্রপাতি স্থাপন করতে হবে। নিম্নে Beam টির ডিজাইন সংযুক্ত করা হলো।

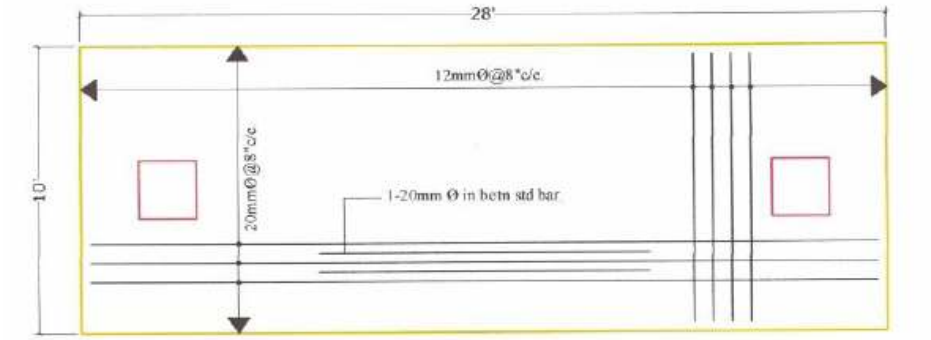
আপনার বিশ্বস্ত -

14.07.10
একে.এম. হাসান জুলকার নাইন।

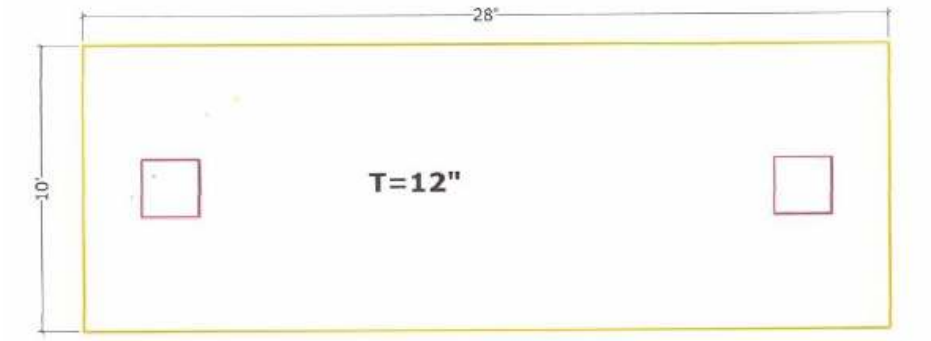
A K M HASAN JULKER NINE
B.Sc. Engineer (Civil) (BUET)
MIEB–16168



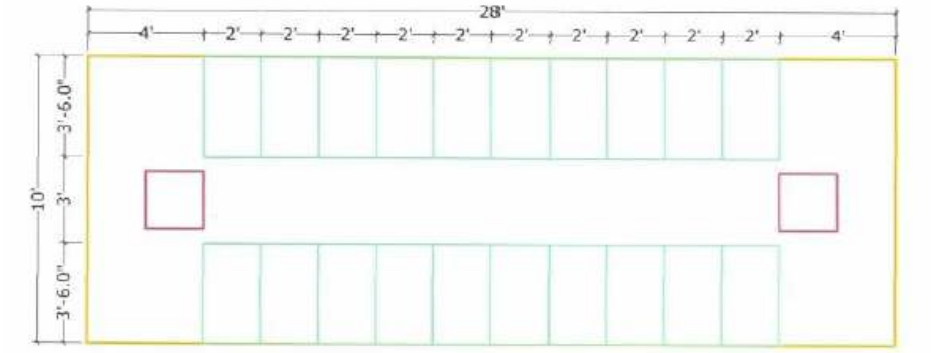
TOP MESH REINFORCEMENT



BOTTOM MESH REINFORCEMENT



SERVER RACK SLAB PLAN
(28'-0"X10'-0"X12")



SERVER RACK PLAN
OF RUPALI BANK LTD.

A K M HASAN JULKER NINE
B.Sc. Engineer (Civil) (BUET)
MIEB-16168

MANTISSA DESIGN & CONSUL
HOUSE NO- 398, ROAD NO-
MOHAKHALI NEW DOHS, DI

Rupali Bank Limited Annexure-03
Head Office, Dhaka

List of pilot branches, zonal offices and divisions for Hardware requirement

1st Phase

SL. No.	Name of Branches	No. of Max. Trn. Per day	No. of Item to be supplied								
			PC	Dot Matrix printer	Laser Printer	UPS	Router	Switch	Scanner	Rack	LAN Setup
01.	Local Office, Dhaka	2500	15	01	02	15	1	1	1	01	As Req.
02.	Foreign Exchange Corp Branch	3000	15	01	02	15	1	1	1	01	”
03.	Motijheel Corporate Branch	500	5	01	01	05	1	1	1	01	”
04.	Ramna Corporate Branch	700	5	01	01	05	1	1	1	01	”
05.	Rupali Sadan, Dhaka	500	10	01	01	10	1	1	1	01	”
06.	Purana Paltan Corporate Branch	550	5	01	01	5	1	1	1	01	”
07.	Anderkilla Corp. Br, Chittagong	300	5	01	01	5	1	1	1	01	”
08.	Agrabad Branch, Ctg	500	5	01	01	5	1	1	1	01	”
09.	Gulshan Branch, Dhaka	500	5	01	01	5	1	1	1	01	”
10.	Mitford Road Branch, Dhaka	300	5	01	01	5	1	1	1	01	”
11.	S. K. Road Branch, Narayangoj	600	5	01	01	5	1	1	1	01	”
12.	Daulatpur Branch, Khulna	500	5	01	01	5	1	1	1	01	”
13.	Shams Building Branch, Khulna	700	5	01	01	5	1	1	1	01	”
14.	Nayapalton Branch, Dhaka	350	03	01	01	03	1	1	1	01	”
15.	Dhanmondi Branch, Dhaka	450	03	01	01	03	1	1	1	01	”
16.	Uttara Model Town Br, Dhaka	450	03	01	01	03	1	1	1	01	”
17.	T.C.B Bhabon Branch	250	03	01	01	03	1	1	1	01	”
18.	Mirpur Branch, Dhaka	600	03	01	01	03	1	1	1	01	”
19.	Dhaka Cantonment Br, Dhaka	700	03	01	01	03	1	1	1	01	”
20.	Jaydebpur, Gazipur	400	03	01	01	03	1	1	1	01	”
21.	Manikgonj Branch, Manikgonj	300	03	01	01	03	1	1	1	01	”
22.	Johnson Road Branch, Dhaka	850	03	01	01	03	1	1	1	01	”
23.	Tanbazar Branch, Narayangonj	350	03	01	01	03	1	1	1	01	”
24.	Narsingdi Branch	400	03	01	01	03	1	1	1	01	”
25.	Tangail Branch	500	03	01	01	03	1	1	1	01	”
26.	Chotto Bazar, Mymensingh	450	03	01	01	03	1	1	1	01	”
27.	Kishorgonj Branch, Kishorgonj	500	03	01	01	03	1	1	1	01	”
28.	H.S.S Road Branch, Chittagong	500	03	01	01	03	1	1	1	01	”
29.	Bibirhat, Chittagong	600	03	01	01	03	1	1	1	01	”
30.	Station Road, Chittagong	550	03	01	01	03	1	1	1	01	”
31.	Eshan Mistri Hat Br, Chittagong	400	03	01	01	03	1	1	1	01	”
32.	Rupali Sadan Br, Chittagong East	750	03	01	01	03	1	1	1	01	”
33.	Rupali Sadan Br. Cox’s Bazar, Chittagong	400	03	01	01	03	1	1	1	01	”
34.	Amir Market Br., Chittagong East	450	03	01	01	03	1	1	1	01	”
35.	Terri Bazaar Branch, Chittagong	300	03	01	01	03	1	1	1	01	”
36.	Chadgawn Branch, Chittagong	600	03	01	01	03	1	1	1	01	”
37.	Comilla Cantonment Br, Comilla	550	03	01	01	03	1	1	1	01	”
38.	Brahamanbaria	500	03	01	01	03	1	1	1	01	”
39.	Monohorpur	450	03	01	01	03	1	1	1	01	”
40.	Thana Road Br.	550	03	01	01	03	1	1	1	01	”
41.	GL Ray Road, Rongpur	500	03	01	01	03	1	1	1	01	”
42.	Hazi Mohd. Danesh Science & Technology University, Br.	500	03	01	01	03	1	1	1	01	”
43.	Shaheb Bazar Br., Rajshahi	525	03	01	01	03	1	1	1	01	”
44.	Faridpur Branch	500	03	01	01	03	1	1	1	01	”
45.	Laldighirpar Branch, Sylhet	500	03	01	01	03	1	1	1	01	”
46.	Mirabazar Br.,Sylhet	450	03	01	01	03	1	1	1	01	”
47.	Islampur Br., Sylhet	450	03	01	01	03	1	1	1	01	”
48.	Magura Branch, Jessore	500	03	01	01	03	1	1	1	01	”
49.	Narail Branch, Jessore	550	03	01	01	03	1	1	1	01	”
50.	MK Road Branch, Jessore	600	03	01	01	03	1	1	1	01	”
51.	Feni Branch, Feni	550	03	01	01	03	1	1	1	01	”

52.	Vola Branch, Vola	500	03	01	01	03	1	1	1	01	''
53.	Sadar Road Branch, Barisal	600	03	01	01	03	1	1	1	01	''
54.	Putiakhali Branch, Barisal	500	03	01	01	03	1	1	1	01	''
55.	Chowmuhana Br, Moulavi Bazar	500	03	01	01	03	1	1	1	01	''
56.	Dhaka Central Zone	0	03	01	01	03	1	1	1	01	''
57.	Central Accounts Division	3500	10	01	02	10	1	0	0	00	''
58.	General Banking Division	200	05	01	02	05	1	0	0	00	''
59.	International Division	1000	15	01	02	15	1	0	0	00	''
	Total	**36725**	**249**	**59**	**64**	**249**	**59**	**56**	**56**	**56**	**59**

2nd Phase:

SL. No.	Name of Branches	No. of Item to be supplied									
		No. of Max. Trn. Per day	PC	Dot Matrix printer	Laser Printer	UPS	Router	Switch	Scanner	Rack	LAN Setup
1	200 Branches	400*200 =80,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	231 Branches	350*231 =80,850	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	Rest of Zonal Office/Control Office	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sub Total	**1,60,850**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Grand Total(1st+2nd Phase)	**1,97,575** Approximate 2,00,000	**249**	**59**	**59**	**249**	**59**	**56**	**56**	**56**	**59**

Note: N/A- Not Applicable for bidding

Annexure-04

LAN Infrastructure of H/O, IP Telephony solution & Antivirus Users: 1st Phase:

Sl No	Flr. No	Division/Branch	LAN Structure	IP Solution			No. of Antivirus User
			No. of LAN Port	No. of Node	No. Of IP Telephony (Executive)	No. Of IP Telephony (+Basic)	
1	1st	MIS	10	5	2	3	10
2		GM (Marketing) Secretariat	2	2	1	1	2
3		GM (Business Development) Secretariat	2	2	1	1	2
4		Help Center	5	5	1	4	5
		Sub Total	**19**	**14**	**05**	**09**	**19**
5	2nd	Board Secretariat	6	6	2	4	6
6	2nd	Managing Director Secretariat	5	5	2	3	5
7	2nd	DMD (Operation) Secretariat	2	2	1	1	2
8	2nd	DMD (Marketing & Business Dev.) Secretariat	2	2	1	1	2
9	2nd	GM (HR) Secretariat	2	2	1	1	2
10	2nd	GM (Operation-2) Secretariat	2	2	1	1	2
		Sub Total	**19**	**19**	**8**	**11**	**19**
11	3rd	Law Division	5	5	3	2	5
12		Recovery Division	10	6	3	3	10
13		General Loan & SME Division	10	7	3	4	10
14		Data Center	39	05	02	03	39
		Sub Total	**64**	**23**	**11**	**12**	**64**
14	4th	Admin & HR Division	16	10	3	7	16
15		Discipline & Appeal Division	8	6	2	4	8
16	4th &7th	Industrial Credit Division	15	6	3	3	15
		Sub Total	**39**	**22**	**8**	**14**	**39**
17	6th	International & Foreign Exchange Division	40	19	4	10	40
18		Remittance Division	07	4	2	2	7
19		Marketing, Planning & Research Div.	10	6	3	3	10
20		Public Relation	05	4	2	2	5
		Sub Total	**62**	**33**	**11**	**17**	**62**
21	7th	GBD	05	4	2	2	5
22		Establishment & DSR	15	14	04	6	15
23		Engineering Division	10	7	2	5	10
		Sub Total	**30**	**25**	**8**	**13**	**30**
24	8th	CAD	35	12	5	7	35
25		Money Laundering Division	05	5	1	4	5
		Sub Total	**40**	**17**	**6**	**11**	**40**
26	9th	Computer & Alternate Banking Division	45	22	7	8	45
27		Company Affairs & Share Division	06	4	2	02	6
28		Reconciliation	15	13	3	10	15
		Sub Total	**66**	**39**	**12**	**20**	**66**
29	**RBTI**	ICC	06	3	2	1	6
30		R.B.T.I.	10	5	2	3	10
31		Audit & Inspection Division	10	5	3	2	10
32		Rural Loan	06	4	2	2	6
		Sub Total	**32**	**17**	**09**	**08**	**32**
33	**Miscell**	Treasury	10	5	2	3	10
34	**aneous**	Entrepreneur Support Cell	05	4	2	2	5
35		Islamic Banking	10	5	2	3	10
		Sub Total	**25**	**14**	**6**	**8**	**25**
		Head Office Division Total	**396**	**223**	**84**	**123**	**396**

Annexure-04

Sl No	Pilot Branches	LAN Structure	IP Solution			No. of Antivirus User
		No. of LAN Port (As per No. of PC define in Annexure-1)	**No. of Node**	**No. of IP Telephony (Executive)**	**No. of IP Telephony (Basic)**	
1	Local Office	50	36	06	30	50
2	Foreign Exchange Corp Branch	30	18	03	15	30
3	Corporate Branch (11)	10*11=110	88	3*11=33	5*11=55	110
4	Other Branches (42)	7*42=294	210	2*42=84	3*42=126	294
5	Zonal Office/Control Office (Dhaka Central Zone)	05	05	02	03	05
6	DRC	05	05	02	03	05
	Sub Total	**494**	**362**	**130**	**232**	**494**
	Grand Total (1st Phase)	**890**	**569**	**214**	**355**	**890**
	2nd Phase:					
	200 Branches	5*200=1000	600	1*200=200	2*200=400	1000
	237 Branches	4*237=948	474	1*237=237	1*237=237	948
	Rest of Zonal Office/Control Office	5*24=120	5*24 =120	2*24 =48	3*24 =72	120
	Sub Total	**2068**	**1194**	**485**	**709**	**2068**
	Grand Total (1st Phase + 2nd Phase)	**2958**	**1779**	**699**	**1064**	**2958** (Approx. 3000)
	Addition future projection of 208 mini Branches may be included.	3*208=624	416	1*208=208	1*208 =208	624
	Grand Total (1st Phase + 2nd Phase + Additional Branch for future projection)	**3582**	**2195**	**907**	**1272**	**3582** (Approx. 4000)

Annexure-05

492 Branch List of Rupali Bank Limited

SL NO.	OFFICENAME	DISTRICT
Corporate Branches		
1	Anderkilla Corporate Branch	Chittagong
2	Foreign Exchange Corporate Br.	Dhaka
3	Motijheel Corporate	Dhaka
4	Rupali Sadan Corporate	Dhaka
5	Local Office Corporate	Dhaka
6	Ramna Corporate	Dhaka
7	Purana Paltan Corporate Branch	Dhaka
Barisal Zone		
8	BAZAR ROAD	Barisal
9	RAHMATPUR	Barisal
10	Bhavanipur	Barisal
11	HEMAYETUDDIN ROAD	Barisal
12	SADAR ROAD	Barisal
13	SHIKAR PUR	Barisal
14	Putiakhali Bandar	Barisal
15	AGARPUR	Barisal
16	Sagardi Bazar	Barisal
17	Central Bus Terminal	Barisal
18	Mahajan Patty	Bhola
19	Bangla Bazar	Bhola
20	LALMOHAN BRANCH	Bhola
21	DAURI BANDAR	Bhola
22	JINNAHGARH	Bhola
23	KUTBA	Bhola
24	BHOLA	Bhola
25	Jhalakati	Jhalakati
26	Kowrikhara	Pirojpur
27	Pirojpur	Pirojpur
28	SWARUPKATI	Pirojpur
29	BANARIPARA	Pirojpur
30	ZIANAGAR	Pirojpur
31	HULARHAT	Pirojpur
32	INDERHAT	Pirojpur
33	KAWKHALI	Pirojpur
Bogra Zone		
34	DUPCHANCHIA	Bogra
35	JAHANGIRABAD CANTT.	Bogra
36	Bus Stand (Sherpur)	Bogra
37	BOGRA CONTONMENT	Bogra
38	HATFULBARI	Bogra
39	SHABGRAMHAT	Bogra
40	Shabek Para	Bogra
41	Namaj Ghar	Bogra
42	GOLABARI	Bogra

43	GOSHAIBARI	Bogra
44	MOHASTHAN	Bogra
45	SUKHANPUKUR	Bogra
46	KAHALOO	Bogra
47	Mokamtola	Bogra
48	GABTALI	Bogra
49	LADIES BRANCH	Bogra
50	BARAGOLA	Bogra
51	Thana Road	Bogra
52	KICHAK	Bogra
53	SHIBGANJ	Bogra
54	Altafnagar	Bogra
55	Bhaier Pukur	Bogra
56	SONAMUKHI	Joypurhat
57	JOYPURHAT	Joypurhat
58	KHETLAL	Joypurhat
59	MOLAMGARIHAT	Joypurhat
60	GOPINATHPUR	Joypurhat
Chittagong East Zone		
61	BANDARBAN	Bandarban
62	KALURGHAT	Chittagong
63	Korbanigonj	Chittagong
64	PATHER HAT	Chittagong
65	LICHUBAGAN BAZAR	Chittagong
66	CHAKTAI	Chittagong
67	DEWAN BAZAR	Chittagong
68	NURALIBARI	Chittagong
69	PATIYA	Chittagong
70	KHANS HAT CHITTAGONG.	Chittagong
71	SHAKPURA CHOWMUHANI	Chittagong
72	GOMDANDI	Chittagong
73	Urkirchar	Chittagong
74	Gorchi (Nayahat)	Chittagong
75	TERRI BAZAR	Chittagong
76	LAMAR BAZAR	Chittagong
77	AMIR MARKET	Chittagong
78	CHANDGAON	Chittagong
79	BOXIR HAT	Chittagong
80	RUPALI SADAN	Chittagong
81	IQBAL ROAD	Chittagong
82	RAMU	Cox's Bazar
83	CHERINGA	Cox's Bazar
84	Rupali Sadan(Cox's Bazar)	Cox's Bazar
85	EADGAON	Cox's Bazar
86	COURT BAZAR	Cox's Bazar
87	BAZARGHATA	Cox's Bazar
Chittagong West Zone		
88	Chaitanyagali	Chittagong
89	Sagurika Road	Chittagong
90	LADIES BRANCH	Chittagong
91	ISHAN MISTRY HAT	Chittagong
92	CHAWK BAZAR	Chittagong

93	Bibirhat	Chittagong
94	Omar Ali Market	Chittagong
95	PANCHLAISH	Chittagong
96	JAHAN BUILDING	Chittagong
97	AGRABAD	Chittagong
98	JUBILEE ROAD	Chittagong
99	STATION ROAD	Chittagong
100	STRAND ROAD	Chittagong
101	Dhanialapara	Chittagong
102	Sadarghat	Chittagong
103	Raujan Br.	Chittagong
104	H.S.S Road Branch	Chittagong
105	COMMERCIAL AREA	Chittagong
106	PAHARTALI	Chittagong
107	Tabalchari Bazar	Chittagong Hill Tracts
108	BANARUPA	Chittagong Hill Tracts
109	Rangamati	Chittagong Hill Tracts
Comilla Zone		
110	BRAHMANBARIA	Brahmonbaria
111	Mohamaya Bazar	Chandpur
112	PURAN BAZAR	Chandpur
113	Monohargonj	Chandpur
114	HAJIGONJ	Chandpur
115	Chitoshi Bazar	Chandpur
116	Natun Bazar	Chandpur
117	Nazirapara	Chandpur
118	Shahatali Bazar	Chandpur
119	Rampura Bazar	Chandpur
120	COMILLA CANTONMENT	Comilla
121	BARERA BAZAR	Comilla
122	BAGMARA BAZAR	Comilla
123	GANGCHAR TIMBER MARKET	Comilla
124	Madhaiya Bazar	Comilla
125	Bhuschi Bazar	Comilla
126	MAINAMATI BAZAR	Comilla
127	Kapuria Patty	Comilla
128	Monoharpur	Comilla
129	MUDAFFARGONJ	Comilla
130	DAULATGONJ BAZAR	Comilla
131	CHOWARA BAZAR	Comilla
132	Bipuleshwar	Comilla
Dhaka Central Zone		
133	Captan Bazar	Dhaka
134	Rampura	Dhaka
135	Rajar Bagh	Dhaka
136	Malibagh	Dhaka
137	Malibagh Chowdhury Para	Dhaka
138	Mugda	Dhaka
139	Bangshal Road	Dhaka
140	Dhaka Ladies	Dhaka
141	Elephant Road	Dhaka
142	Ferdousi Plaza	Dhaka

143	Naya Paltan	Dhaka
144	Mahmud Mansion	Dhaka
145	Nayatola	Dhaka
146	Nawabpur Road	Dhaka
147	New Market	Dhaka
148	North South Road	Dhaka
149	Hatkhola	Dhaka
150	Postogola	Dhaka
151	Fakira Pool Bazar	Dhaka
152	Banga Bandhu Avenue	Dhaka
153	Mogh Bazar	Dhaka
Dhaka North Zone		
154	Shyamoli	Dhaka
155	Mohammadpur	Dhaka
156	Firmgate	Dhaka
157	Dhaka Cantonment	Dhaka
158	Dhanmondi	Dhaka
159	Gulshan	Dhaka
160	Gabtali Hat	Dhaka
161	Indira Road	Dhaka
162	Mohakhali	Dhaka
163	Savar Bus Stand	Dhaka
164	Mohammadpur Ladies	Dhaka
165	Mirpur	Dhaka
166	Pallabi	Dhaka
167	T.C.B Bhabon	Dhaka
168	Savar Cantonment	Dhaka
169	Uttara Model Town	Dhaka
170	Tongi	Gazipur
171	Joydebpur	Gazipur
172	Dhankura	Manikgong
173	Saturia	Manikgong
174	Jhitka Bazar	Manikgong
175	Baira Bazar	Manikgong
176	Manikgonj	Manikgong
177	Kushura	Manikgonj
Dhaka South Zone		
178	Islampur Road	Dhaka
179	Nawab Gonj	Dhaka
180	Shyam Bazar	Dhaka
181	Mokim Katra	Dhaka
182	Midford Road	Dhaka
183	Patuatully	Dhaka
184	Rathkhola	Dhaka
185	Hazari Bagh	Dhaka
186	Johnson Road	Dhaka
187	Chawk Bazar	Dhaka
188	Gandaria	Dhaka
189	Yousuf Market	Dhaka
190	Imamgonj	Dhaka
191	Urdu Road	Dhaka
192	Badamtali Steamer Ghat	Dhaka

193	Muksudpur	Dhaka
194	Shikari Para	Dhaka
195	Zinzira	Dhaka
196	Sadarghat	Dhaka
197	Totail	Dhaka
198	Bandhura	Dhaka
Dinajpur Zone		
199	NIMTALA	Dinajpur
200	Daudpur	Dinajpur
201	CHEHELGAZI	Dinajpur
202	KABIRAJHAT	Dinajpur
203	Ladies Br. Dinajpur	Dinajpur
204	Hazi Mohd. Danesh Science & Technology University	Dinajpur
205	SHIKDERHAT	Dinajpur
206	BIRGONJ	Dinajpur
207	RANIRBANDAR	Dinajpur
208	MALDAPATTY	Dinajpur
209	BIROL	Dinajpur
210	MAIDANDIGHI	Panchagarh
211	PANCHAGARH	Panchagarh
212	THAKURGAON	Thakurgaon
213	BALIADANGI	Thakurgaon
214	Bhully	Thakurgaon
Faridpur Zone		
215	BADARPUR	Faridpur
216	ALFADANGA	Faridpur
217	FARIDPUR	Faridpur
218	BAITUL MUKADDAM MOSQUE	Faridpur
219	GUNABAHA	Faridpur
220	Charhajigonj Bazar	Faridpur
221	Ramdia College	Gopalgonj
222	Gopalgonj	Gopalgonj
223	JOYNAGAR	Gopalgonj
224	Shibchar Pourashava Bhaban	Madaripur
225	MADARIPUR	Madaripur
226	GOALANDA TEXTILE MILL	Rajbari
227	RATANDIA BAZAR	Rajbari
228	POURASHAVA MARKET	Rajbari
229	RAJBARI	Rajbari
230	BHANIBAHA BAZAR	Rajshahi
231	GOSHAIRHAT	Sariatpur
232	SHARIATPUR	Sariatpur
Feni Zone		
233	SANTIRHAT	Chittagong
234	Abu Torab Bazar	Chittagong
235	Karaiya Bazar	Feni
236	Krishna Mazumderhat	Feni
237	Amiruddin Munshirhat	Feni
238	FENI	Feni
239	FAZILPUR	Feni
240	NEW RANIRHAT	Feni

241	Motigonj	Feni
242	Kutharhat	Feni
243	Sharshadi Bazar	Feni
244	DHALIA BAZAR	Feni
245	ISLAMPUR ROAD	Feni
246	Ramgarh	Khagrachari
247	Bashur Hat	Noakhali
248	Bangla Bazar Companigonj	Noakhali
249	TAL MOHAMMAD HAT	Noakhali
Jamalpur Zone		
250	Melandah Bazar	Jamalpur
251	Dharmakura Bazar	Jamalpur
252	Koyra Bazar	Jamalpur
253	BOIRA BAZAR	Jamalpur
254	Sherpur Town	Jamalpur
255	SARISHABARI	Jamalpur
256	JAMALPUR	Jamalpur
257	Jamuna Shar Karkhana Comp.	Jamalpur
258	Durmut Bazar	Jamalpur
Jessore Zone		
259	Raipur Bazar	Jessore
260	Navaron	Jessore
261	MISTRIKHANA ROAD	Jessore
262	H.M.M. ROAD	Jessore
263	KHAJURA	Jessore
264	MONIRAMPUR	Jessore
265	PAJIA BAZAR	Jessore
266	JHINAIDAH	Jhinaidah
267	HAT KHALISHPUR	Jhinaidah
268	SAFDERPUR	Jhinaidah
269	KOTCHANDPUR	Jhinaidah
270	CHAULIA BUS STAND	Magura
271	MAGURA	Magura
272	NARAIL	NARAIL
273	LOHAGORAH BAZAR	Narail
Khulna Zone		
274	Fakirhat	Bagerhat
275	MOLLAHAT	Bagerhat
276	NAGER BAZAR	Bagerhat
277	BETAGA BAZAR	Bagerhat
278	Bagerhat	Bagerhat
279	BARAIKHALI	Bagerhat
280	Mongla Port	Bagerhat
281	Mansha Bazar	Bagerhat
282	KACHUA BAZAR	Bagerhat
283	CHALNA BAZAR	Khulna
284	I.W.T.A Terminal	Khulna
285	BATIAGHATA	Khulna
286	GARAIKHALI HAT	Khulna
287	KDA NEW MARKET	Khulna
288	BARA BAZAR	Khulna

289	Daulatpur	Khulna
290	RAJAPUR	Khulna
291	Rupali Sadan, Khulna	Khulna
292	Natun Bazar	Khulna
293	Paikgacha	Khulna
294	KHALISHPUR	Khulna
295	SHAMS BUILDING	Khulna
296	SATKHIRA	Satkhira
297	NALTA MUBARAKNAGAR	Satkhira
298	Nawabenki	Satkhira
299	JHAUDANGA	Satkhira
300	Kalaroa	Satkhira
301	BARDAL	Satkhira
Kushtia Zone		
302	DAMURHUDA	Chuadanga
303	Chuadanga	Chuadanga
304	MOMINPUR	Chuadanga
305	SWASTIPUR	Kushtia
306	KUSHTIA	Kushtia
307	Moshan	Kushtia
308	HOSSAINABAD	Kushtia
309	Alamdanga	Kushtia
310	Meherpur	Meherpur
311	MAJIB NAGAR	Meherpur
Moulavibazar Zone		
312	Hobigonj	Hobigonj
313	Aushkandi	Hobogonj
314	Enayetgonj	Hobogonj
315	Azimgonj	Moulavibazar
316	Tengra Bazar	Moulavibazar
317	Sreemongal	Moulavibazar
318	Kalar Bazar (Naluarmukh)	Moulavibazar
319	Channighat	Moulavibazar
320	SHAMRAR BAZAR	Moulavibazar
321	Chowmohana	Moulavibazar
322	Natun Bazar, Sreemongal	Moulavibazar
323	KERAMATNAGAR	Moulavibazar
324	MARKET	Moulavibazar
Mymensingh Zone		
325	Kishoregonj	Kishoregonj
326	Bhairab Bazar	Kishoregonj
327	NILGONJ	Kishoregonj
328	Balipara	Mymensingh
329	Thana Ghat	Mymensingh
330	FATEMA NAGAR	Mymensingh
331	Mallickbari	Mymensingh
332	DAPUNIA BAZAR	Mymensingh
333	KHAGDAHAR BAZAR	Mymensingh
334	Trishal	Mymensingh
335	Shawdeshi Bazar	Mymensingh
336	UCHAKHILA BAZAR	Mymensingh

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337	Chotto Bazar	Mymensingh
338	Purabari	Mymensingh
339	DHARA BAZAR	Mymensingh
340	MUKTAGACHA	Mymensingh
341	Rayer Bazar, Netrokana	Netrokona
342	Shyamgonj	Netrokona
343	Netrokona	Netrokona
344	KENDUA	Netrokona
Narayangonj Zone		
345	Mirkadim	Munshigonj
346	Munshigonj	Munshigonj
347	Lohajong	Munshigonj
348	Benodpur	Munshigonj
349	Tanbazar,	Narayangonj
350	Bangabandhu Road	Narayangonj
351	S.K.Road	Narayangonj
352	KANAI NAGAR	Narayangonj
353	Bangla Bazar	Narayangonj
354	R.K.Das Road	Narayangonj
355	Fatullah	Narayangonj
356	Narsingdi	Narsingdi
357	Baburhat	Narsinghdi
Noakhali Zone		
358	Dattapara	Lakshmipur
359	DALTA BAZAR	Lakshmipur
360	LAKSHMIPUR	Lakshmipur
361	MANDARI BAZAR	Lakshmipur
362	BIBIRHAT	Lakshmipur
363	Poddar Bazar	Lakshmipur
364	Sonapur	Lakshmipur
365	Ramgati Bazar	Lakshmipur
366	Balua Chowmohani	Lakshmipur
367	POURASHAVA MARKET	Noakhali
368	KARIHATI BAZAR	Noakhali
369	Eklashpur Bazar	Noakhali
370	PALLA BAZAR	Noakhali
371	MAIJDEE COURT	Noakhali
372	Kabirhat	Noakhali
373	RAJGONJ BAZAR NOAKHALI	Noakhali
374	AMISHAPARA	Noakhali
375	Golabaria	Noakhali
376	KARAMBOX BAZAR	Noakhali
377	CHOWMOHANI	Noakhali
378	Bangla Bazar, Begumgon Br.	Noakhali
379	CHATKHIL	Noakhali
Pabna Zone		
380	AUTAPARA	Pabna
381	Bonwari Nagar	Pabna
382	Pabna Cadet College	Pabna
383	GOPALPUR	Pabna
384	BONOGRAM PABNA	Pabna

385	SHIBPUR	Pabna
386	Ishwardi	Pabna
387	DOGACHI	Pabna
388	Mothurahat	Pabna
389	NAKALIA	Pabna
390	SANTHIA	Pabna
391	DEBOTTAR	Pabna
392	Bera Branch	Pabna
393	PABNA	Pabna
394	BOALIA	Sirajgonj
395	BAGABATIHAT	Sirajgonj
396	SIRAJGONJ	Sirajgonj
397	BELKUCHI	Sirajgonj
398	BETIL	Sirajgonj
399	DARIAPUR BAZAR	Sirajgonj
400	Shiyalkol	Sirajgonj
Patuakhali Zone		
401	BETAGI	Barguna
402	BARGUNA	Barguna
403	Khepupara Branch	Patuakhali
404	KALISURI BANDAR	Patuakhali
405	Dibuapur	Patuakhali
406	BAHERCHAR	Patuakhali
407	PATUAKHALI SCIENCE & TECHNOLOGY UNIVERSITY	Patuakhali
408	New Town, Patuakhali	Patuakhali
409	Patuakhali	Patuakhali
Rajshahi Zone		
410	Baliadanga	Chapai Nawabgonj
411	BHOLAHAT	Chapai Nawabgonj
412	STATION BAZAR	Chapai Nawabgonj
413	NAMASANKAR BATI	Chapai Nawabgonj
414	Chapai Nawabgonj	Chapai Nawabgonj
415	NATORE	Natore
416	NALDANGARHAT	Natore
417	ABDULPUR	Natore
418	KADIRA BAD CANTT.	Natore
419	SINGRA BAZAR	Natore
420	NICHA BAZAR	Natore
421	BADALGACHI	Noagoan
422	HOSPITAL ROAD	Noagoan
423	Sadar Road, Noagoan	Noagoan
424	NIAMATPUR	Noagoan
425	TANORE	Rajshahi
426	Laxmipur, Rajshahi	Rajshahi
427	Rajshahi University of Engineering & Technology Br	Rajshahi
428	Rajshahi Cantonment	Rajshahi
429	K. N. I. Road	Rajshahi
430	KAKONHAT	Rajshahi
431	Shaheb Bazar	Rajshahi
Rangpur Zone		

432	GAIBANDHA	Gaibandha
433	BADIAKHALI	Gaibandha
434	DHAPERHAT	Gaibandha
435	Kurigram	Kurigram
436	LALMONIRHAT	Lalmonirhat
437	PATGRAM	Lalmonirhat
438	BARAKHATA	Lalmonirhat
439	ADITMARI	Lalmonirhat
440	KISHORIGONJ	Nilphamari
441	NILPHAMARI	Nilphamari
442	DALIA(TEESTA BARRAGE)	Nilphamari
443	DIMLA	Nilphamari
444	Sayedpur	Nilphamari
445	BARAIBARI	Nilphamari
446	MAHIGONJ	Rangpur
447	HARAGACH	Rangpur
448	TARAGONJ	Rangpur
449	CENTRAL ROAD	Rangpur
450	ANNADANAGAR	Rangpur
451	G.L.ROY RD.	Rangpur
452	RAILWAY CROSSING	Rangpur
453	TETULTALA	Rangpur
454	Ladies Branch, Rangpur	Rangpur
455	R.K.ROAD	Rangpur
456	BHENDABARI	Rangpur
Sylhet Zone		
457	Chatak	Sunamgonj
458	JAGANNATHPUR SUNAMGONJ.	Sunamgonj
459	Kenabari Bazar	Sunamgonj
460	Dolar Bazar	Sunamgonj
461	Syedpur	Sunamgonj
462	Bhober Bazar	Sunamgonj
463	Sunamgonj	Sunamgonj
464	Laldighirpar, Sylhet	Sylhet
465	MADAR BAZAR	Sylhet
466	KHALOMUKH	Sylhet
467	RAKHALGONJ BAZAR	Sylhet
468	Taltola	Sylhet
469	Bharthakhola	Sylhet
470	DAYAMIR	Sylhet
471	Khadimpur	Sylhet
472	Kazir Bazar	Sylhet
473	BANDAR BAZAR	Sylhet
474	Ladies Branch, Sylhet	Sylhet
475	Kurua	Sylhet
476	MIRABAZAR	Sylhet
477	REKABI BAZAR	Sylhet
478	KURAR BAZAR	Sylhet
479	HABRA BAZAR	Sylhet
480	DATTARAIL	Sylhet
481	Station Road, Sylhet	Sylhet

482	SULTANPUR	Sylhet
483	Islampur, Sylhet	Sylhet
Tangail Zone		
484	NATIAPARA	Tangail
485	Elenga Bus Stand	Tangail
486	PATHRAIL BAZAR	Tangail
487	ELASIN	Tangail
488	PAKULLA	Tangail
489	BALLA BAZAR	Tangail
490	KALIHATI	Tangail
491	TANGAIL	Tangail
492	RATANGONJ BAZAR	Tangail

Annexure-06

Rupali Bank Ltd.

Computer Division, Head Office, Dhaka

1. Severity Level Classification and response times

The faults reported by RBL will classify by faults in such manner which will be acceptable by related authorities and report to the Tenderer as per the Fault severity codes specified below. With Tenderer consent, RBL can change the severity level from Level-3 to Level-2 and from Level-2 to Level-1 as deemed necessary based on business requirement/priorities. There are three defined classifications, response and resolution times:

(Table 1: Severity Code)

Basis	Severity 1	Severity 2	Severity 3	Severity 4
Business & financial exposure	High	Low	Insignificant	None
Availability of Application	Critical	Moderate	Low	Insignificant
Data Integrity	Critical	Moderate	Low	Insignificant

(Table 2: Severity Level Classification)

Severity Level Category	Description	Symptom
1 Priority : High/Critical	A problem that critically impacts ability to do business. The system or principal business application is totally down or severely degraded.	Unrecoverable errors/failures, device failure, application failures. Any system is down because of hardware or software problems, etc.
2 Priority: Moderate	A problem that impacts ability to do business, the severity of which is significant and may be repetitive in nature.	Device or software/ application failures. Maintenance problems, causing servicing restriction Probable failure of important functions
3 Priority: Low	A minor problem that negligibly impacts ability to do business. Also includes questions and/or general consultation.	- Unexpected behaviour - Loss of selected settings - Missing help or documentation - Missing of parameter labels - Violation against the Design Guide System is operational but experiencing minor problems or have general questions on features or certain behaviour of the system. The request will be queued and receive a response as soon as possible.
4 Priority: Insignificant	Unfriendly behaviour, documentation and cosmetic issues.	• Unattractive cosmetics • Warning/ errors/changes It may have questions on features or certain behaviour of the system. The request will be queued and responded as soon as possible. If the issue, change or question is accurately identified, a date will be given for which the fix will be applied.

(Table 3: Response Time, Restoration Time, Resolution Time)

Severity Level Category	Response Time*	Restoration Time* (For 80% 0f faults)	Maximum Time* to Resolve from the time of notification (100% resolution)
1	2 hour	8 hours	12 hours
2	4 hours	12 hours	1 day
3	8 hour	24 Hours	3 days
4	12 Ours	48 Hours	7days

Note: Time denoted by * commence from the time of the log of the call in Tenderer's Call Centre by RBL.

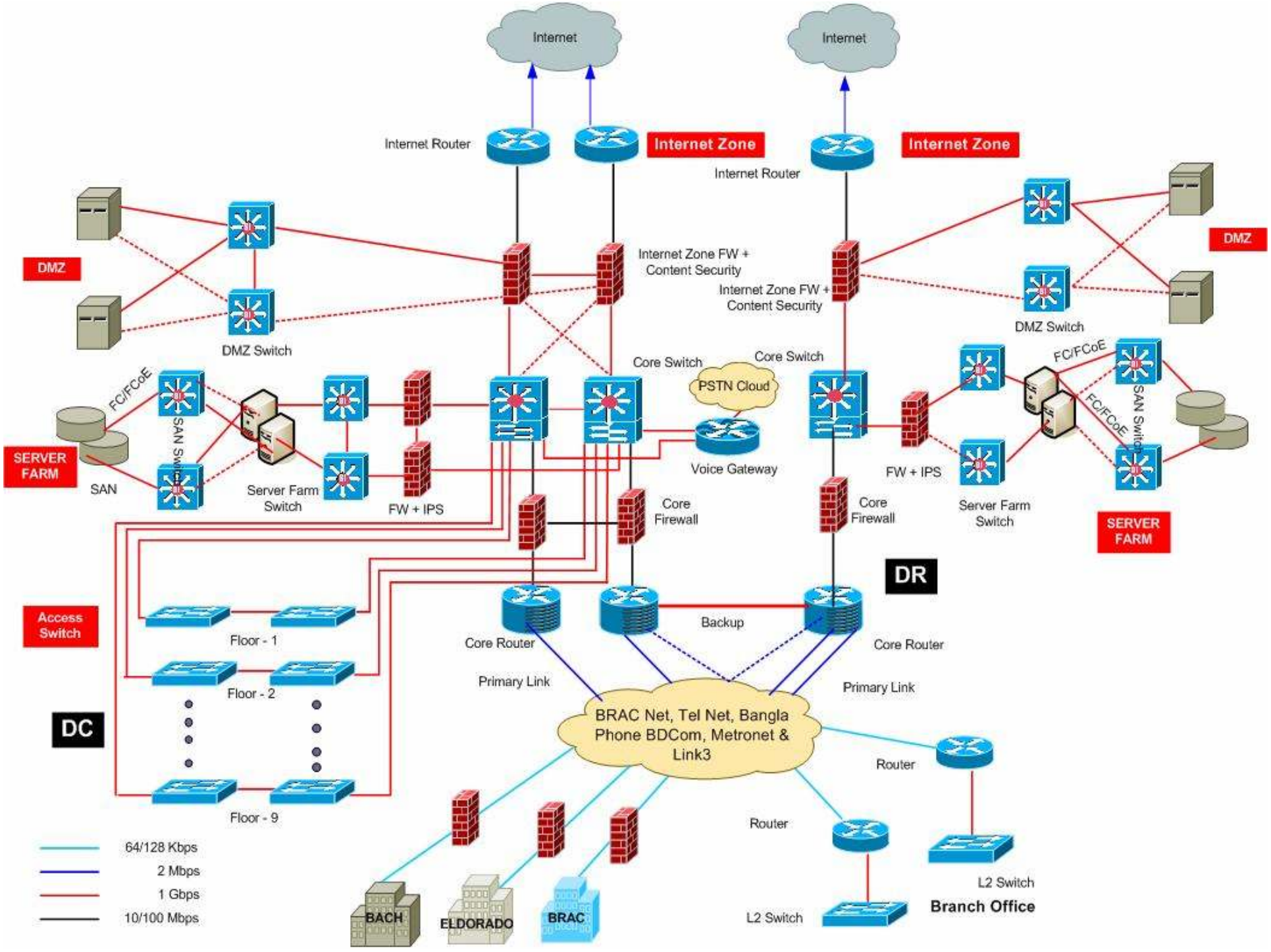
Penalty & Indemnity

1.1 For any delay in reporting or replacement/repairing services beyond the period as agreed between the parties under this Agreement, Tenderer will need to clarify the reason of delay and if the reason(s) is/are not provided in time or not acceptable to the CUSTOMER, the CUSTOMER can deduct the Maintenance Fees in the following rate:

1.1.1 If delay in reporting is more than two (2) hours but less than four (4) hours and/or delay in replacement/repairing service is more than six (6) hours but less than twelve (12) hours, 10% of the Maintenance Fees of that particular month of that particular system will be deducted from the invoice. In case of warranty period 01% of the construction cost for the particular system will be deducted from the invoice.

1.1.2 If delay in reporting is more than six (6) hours and/or delay in replacement/repairing service is more than 48 hours, 20% of the Maintenance Fees of that particular month(s) of that particular system will be deducted from the invoice.

Annexure-07


Internet
Internet
Internet Router
Internet Zone
Internet Zone
Internet Router
DMZ
DMZ
Internet Zone FW + Content Security
Internet Zone FW + Content Security
DMZ Switch
DMZ Switch
Core Switch
Core Switch
PSTN Cloud
FC/FCoE
FC/FCoE
FC/FCoE
SAN Switch
SAN Switch
SERVER FARM
SAN
Server Farm Switch
FW + IPS
Voice Gateway
FW + IPS
Core Firewall
Core Firewall
Server Farm Switch
SERVER FARM
DR
Access Switch
Floor - 1
Core Router
Backup
Core Router
Primary Link
Primary Link
Floor - 2
DC
BRAC Net, Tel Net, Bangla Phone BDCom, Metronet & Link3
Router
Router
Floor - 9
64/128 Kbps
2 Mbps
1 Gbps
10/100 Mbps
BACH
ELDORADO
BRAC
L2 Switch
L2 Switch
Branch Office

Annexure-08

Rupali Bank Ltd.
Computer Division

A) Present Branch Banking System Information

Name of Branch Banking System	:	Infinity Banking Solution(IBS)
Database	:	MS SQL Server
Operating System	:	Windows Server 2003/ Windows Server 2008
Development Language	:	Visual Basic
Reporting Tools	:	Crystal Report
No. of Branches	:	492
Location of Branches	:	All over the country

B) Interface to the following Application

i. ATM/ POS switching software for Debit card, Credit card, Master card, VISA card.
ii. BACH & BEFTN
iii. SMS
iv. Mobile Banking Software
v Internet Banking Software
vi Tele Banking Software
vii Anti Money Laundering Software
viii Basel-II
ix Utility Bills Software.

C) Other software including in-house and third party Software maintained by Computer Division, RBL

SL	Software Name	OS	Font End	Back End	Interface Required
1	SME	Windows XP	Developer	Oracle	Yes
2	CIB Data Entry System	Windows XP	Developer	Oracle	Yes
3	MICR Cheque Requisition Processing System	Windows XP	Developer	Oracle	Yes
4	Reconciliation Data Entry Sub System	Windows XP, OS/400	Developer OS/400COBOL	Oracle DB2	Yes
5	Website Develop and Maintenance.	Windows XP	PHP	MySQL	Yes
6	RBL Payroll System.	Windows XP	Developer	Oracle	Yes
7	Foreign Currency Return	Windows XP	Developer COBOL	Oracle COBOL	Yes
8	PMIS	OS/400	COBOL	DB2	Yes
9	SBS-1, 2, 3	Windows XP	Visual FoxPro	Visual FoxPro	Yes
10	Matrix	Windows XP	Visual FoxPro	Visual FoxPro	Yes
11	Affairs Reporting System	Windows XP	Visual FoxPro	Visual FoxPro	Yes
12	Share Division Management System.	Windows XP	Visual FoxPro	Visual FoxPro	Yes
13	Anti Money Laundering	Windows XP	Visual Basic	Mysql	Yes
14	CIB Report.	Windows XP	Visual FoxPro	Visual FoxPro	Yes
15	CPF/GPF	Windows XP	Visual FoxPro	Visual FoxPro	Yes